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ABSTRACT

This study of the role of the Library of Congress (LC) in the emerging national information network analyzed data gathered from 23 libraries and network organizations, and found that LC should assume leadership in network development activities by performing the major coordinating role in applying technology and acquiring funding for the technical and standards-related tasks required to link federal, multistate, state, and local systems into the national network. Other recommended activities include continuing LC's role in the creation and distribution of cataloging and authority control data, increasing its cataloging coverage, and reducing cataloging delays: establishing and maintaining an online national bibliographic database of cataloging and authority data to be accessed as a source of last resort by national network participants: continuing to create and maintain a national union catalog in machine-readable form for use by network participants: and expanding its information and training programs to inform the library community about the development and operational status of its activities and those of the network. Appendices list the study's advisory committee and the libraries and networks surveyed. (FM)

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the role of the library of congress in the evolving national network

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A study commissioned by the Library of Congress Network Development Office and funded by the National Commission on Libraries and Information Science

NATIONAL NETWORK NATIONAL NETWORK NATIONAL NETWORK

LIBRARY OF CONGRESS WASHINGTON D.C. 1978

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PREFACE

This document constitutes the final report of a study conducted by Lawrence F. Buckland and William L. Basinski of Inforonics, Inc., Maynard, Mass., under contract to the Library of Congress Network Development Office with funds from the National Commission on Libraries and Information Science. The assistance of Anne C. Edmonds, Librarian of Mount Holyoke College, South Hadley, Mass., and her staff in testing the questionnaire used to obtain data for this study is gratefully acknowledged. The advisory committee for this study, whose names are listed in Appendix A, and the NCLIS staff, in particular Alphonse F. Trezza, executive director, and Ruth L. Tighe, research associate, deserve special thanks for their encouragement and support of this project. Finally, we wish to express our thanks to the staff members of the twenty-three institutions and organizations that participated in the survey, who took time from their busy work schedules not only to respond to the questionnaires but also to revise and update them for the final report.

The study was commissioned by the Library of Congress at a time when networking issues were already prominent on the national library scene. In its program document Toward a National Program for Library and Information Services: Goals for Action, the National Commission on Libraries and Information Science outlined several areas for which the Library of Congress should be responsible in the total national program.1/ The present study addressed only some of these areas, such as expansion of coverage of the National Program for Acquisitions and Cataloging, expansion of the MARC program, distribution of bibliographic data through online communications, development of an expanded general reference program, and establishment of a technical services center to provide training in, and information about, LC techniques and processes. The remaining areas of responsibility, e.g., expansion of the lending and lending-management function, operation of a comprehensive national serials service, or further implementation of the national preservation program, are being addressed by other units of the Library of Congress.

The conduct of this study was governed by the following assumptions, which were included in the work statement for the contractors.

1. The national library and information service network will develop from the base of existing libraries, system networks, abstracting and indexing services, information delivery systems, and publishers. What will evolve is a confederation of discrete and disparate systems, with the means of exchange standardized among them. This is in

general accordance with the national program document of the National Commission on Libraries and Information Science.2/

2. Identical internal systems for handling information in the United States are not likely to occur. Each agency is, and will remain, free to design its own internal formats, procedures, products, and services. Compatibility among these diverse systems will be achieved by standardizing the structure, content designators, and data content of the records to be exchanged among them.

3. The bibliographic apparatus of LC constitutes a critically essential building block for any national program for library and information services.

4. The importance of the LC bibliographic apparatus does not change with the eventual choice of locus for the agency to manage the national network. Therefore, the LC role in the evolving network can be defined before the managing agency is named.

5. Since the Library of Congress has long been the main producer of bibliographic tools in this country, it is logical that it should become the national bibliographic node of the network and be responsible for the building and maintenance of a national bibliographic apparatus.

6. The Library of Congress cannot perform all the bibliographic tasks or provide all the bibliographic products and services required by the network. There must be a rational division of labor with varying scales of decentralized cataloging and input, with centralized authority and responsibility for the bibliographic integrity of the national bibliographic data base.

7. National bibliographic control in the United States must be complementary to and compatible with international efforts for universal bibliographic control.

8. Not every institution in the United States will require online access to the national bibliographic data base. A hierarchy of access nodes is required.

Based on the preliminary results of this study and the pace of development in automated systems and networks, the Library of Congress established a Network Development Office early in 1976 so that it could participate more actively in these network activities. Shortly

afterward, in the spring of 1976, a Network Advisory Group was formed to act in an advisory capacity to the Network Development Office. The advisory group, which included senior representatives from the major library systems and networks, held four meetings during 1976 and 1977 and issued a preliminary planning document in 1977 entitled Toward a National Library and Information Service Network: The Library Bibliographic Component.3/

Their report constitutes the initial considerations for a segment of the total network and has incorporated many of the recommendations found in this study. In particular, the Network Advisory Group has established a Network Technical Architecture Group, consisting of system designers from several network organizations, to design a technical network configuration or architecture. The advisory group is also grappling with an equally important issue, that of the national library bibliographic network's legal and organizational structure.

The participation of the Library of Congress in the emerging national network, as delineated in this report, is crucial to the success of the total national program advocated by the National Commission on Libraries and Information Science. In addition, the contents of this report should be given careful consideration within the Library of Congress by such units as the Office of Planning and Development, the Processing Department, and the automation divisions. While there remain many unanswered questions on the precise nature of the Library's involvement in the proposed network, there is no doubt that the Library of Congress should begin plans for the important part it will play.

Henriette D. Avram
Director, Network Development Office
Library of Congress

December 1977

NOTES:

1. National Commission on Libraries and Information Science. Toward a National Program for Library and Information Services: Goals for Action. (Washington, 1975). p. 66-70.

2. Ibid.

3. Library of Congress Network Advisory Group. Toward a National Library and Information Service Network: The Library Bibliographic Component. Prelim. ed. (Washington, June 1977). 54 p.

1. SUMMARY AND RECOMMENDATIONS

This report contains an analysis of the data collected in a survey of twenty-three libraries and network organizations. One of the principal findings of the survey is that most library leaders urge the Library of Congress to take a leading role in coordinating the development of the emerging national network. There is a consensus that LC should shake off its traditional attitude of standing helpfully on the sidelines. Some of the respondents added that if the Library of Congress does not exercise leadership, the library community may adopt programs from which shifts to better, more comprehensive services may take years. A few respondents had some hesitation in endorsing the Library of Congress in this role and said that it must first develop tangible products and be provided with all the necessary resources to do the job.

The survey results are summarized below, followed by a list of the key tasks required to accomplish the functions identified in the survey. The specific sections of this report where the results and tasks are described in more detail are cited.

1.1 SURVEY RESULTS

The results of the survey indicate that the role of the Library of Congress in a national network can be divided into the following major activities:

1. Leadership in Network Development: The Library of Congress should assume leadership of network development activities by performing the major coordinating role in applying technology and acquiring funding for the technical and standards-related tasks required to link federal, multistate, state, and local systems into the national network. (See p. 10)

2. Cataloging and Authority Data: LC should continue its role in the creation and distribution of cataloging and authority control data, increase its cataloging coverage, and reduce cataloging delays. (See p. 16)

3. Online National Bibliographic Data Base: LC should establish and maintain an online national bibliographic data base of cataloging and authority data to be accessed as a source of last resort by participants in the national network. (See p. 17)

4. National Location Data: LC should continue to create and maintain a national union catalog in machine-readable form for the use of participants in the national network to locate resources. (See p. 28)

5. Information and Training Program: LC should expand its information and training programs substantially to inform the library community about the development and operational status of its activities as well as those of the national network. (See p. 24)

1.2 RECOMMENDATIONS

Of the tasks recommended in the body of the report, the following should be undertaken in the order listed below:

1. Telecommunications and Computer Architecture: Meetings should be held with appropriate individuals to develop the specifications for the telecommunications and computer architecture of the distributed computer processing system required by the national network. (See p. 13)

2. Organizational Structure: Meetings should be held with appropriate individuals to determine the organizational structure of the national network so that the levels and the access routes by which individual libraries are served by the network can be defined. (See p. 14)

3. Pilot with NPAC Libraries: A pilot project should be established with selected libraries that are participating in the National Program for Acquisitions and Cataloging to allow them online access to LC's cataloging and in-process files and to request, via telecommunication lines, various services, e.g., changing the cataloging priority for an item or ordering an item. (See p. 22)

4. Computer Message System: A computer "mail" or message system should be developed and superimposed over the computer data transmission network to send messages to and from LC, using the same terminals and remote computers used for searching and record transmission. This system could be used to support reference and interlibrary loan activities as well as to provide answers to cataloging questions. (See p. 26)

5. Plan for Future Services: A plan for the implementation of various LC services should be written and disseminated.

The plan should contain a description of the service, the organizations in the national network that will be allowed access to the service, the date of installation, and the price of the service. (See p. 22)

2. INTRODUCTION

This report describes a proposed role for the Library of Congress as a national bibliographic resource to be assumed over the next five years. LC's participation is crucial to the success of a national network, according to the National Commission on Libraries and Information Science in its report, Toward a National Program for Library and Information Services: Goals for Action.1/ In this report, the commission also says that the Library of Congress should be designated a national library. The library community recognizes that regardless of whether or not the Library of Congress is designated a national library, it performs a great many services on a national scale and that because of the size of its collections and its cataloging, processing, and reference capabilities, it naturally has a leading national role.

2.1 PROBLEMS AT LC

Nearly everyone in the library community also recognizes that while the Library of Congress has been a leader in the acquisition of resources and in providing services on a broad scale, it has not been a leader in the application of computer technology to bibliographic services. The library community realizes that LC has not had the required machine and manpower resources, either in quantity or type, to meet the demands for computer services and to support national network needs. This has led other organizations to make far greater advances in specific areas, such as in the application of large-scale time-shared computing to bibliographic systems. Most notably, LC's attempts to develop an online national bibliographic service have been preempted by the Ohio College Library Center. OCLC's system, which uses a dedicated computer facility, performs better at this point than LC's present bibliographic system, which must share the available computer resources with other LC operations and congressional programs.

The library community is well aware of the limitations placed on LC's national services by its commitments to serve the Congress and the Copyright Office. In the past, however, when there were national library needs to be met, the Library of Congress rose to the challenge, e.g., in developing the MARC project; therefore, in the area of applying computer technology to bibliographic services, the networks surveyed urged that LC acquire the needed resources. It was noted that if such needs are not met, LC would not be able to participate actively in an operating national network.

The library community also expressed a need to be informed of LC's plans. They cited a history of reluctance by LC to make commitments for new or changed services or to keep to announced schedules for the implementation of such services.

2.2 ACCOMPLISHMENTS AT LC

An outstanding LC accomplishment in the automation of national services was the development of the Library of Congress MARC II machine data base and its associated standards. A plan to create a data base of machine-readable bibliographic records and to make them available to the entire library community was visualized and nurtured by the late Verner Clapp, president of the Council on Library Resources, and carefully executed by Henriette Avram, former chief of the MARC Development Office and present director of the Network Development Office, with the result that MARC II is now a cornerstone of library mechanization. The quality and long-term strength of this operation, along with its large processing volume, has prompted library leaders to urge that the Library of Congress take a prominent role in the development of the national library network.

2.3 NEED FOR A SURVEY

This change in LC's role was outlined in the program document of the National Commission on Libraries and Information Science in the form of several broad suggestions for responsibilities to be assumed by LC.2/ The executive director of the commission recognized that these suggestions required further work and funded a project at the Library of Congress to define the LC role in more detail. The project was conducted by consultants who were specialists in systems design and survey work.

The study sought to find where the Library of Congress could support the activities of the multistate, state, and local library networks and larger resource libraries which might comprise the national network. This objective was achieved by surveying the plans of major library networks, by comparing these plans with those of the Library of Congress, and by noting where needed services were not included.

The emphasis of the project was on technical developments. The survey, therefore, was limited to investigating possible roles for the Library of Congress only in those activities related to distribution of cataloging data, union catalog maintenance, reference support, personnel training, distribution and control of authority data, and standards development.

The survey was conducted by interviewing the network managing staffs personally, with the aid of a questionnaire to insure that all interviews were conducted in a uniform manner. The investigators also interviewed a cross section of the library community, including large and small public and academic libraries, to insure that their requirements were recorded. Direct library involvement in the interviewing process precluded the possibility that some of the community's important needs might have been left out inadvertently when its network service organizations were interviewed. Summary descriptions and characteristics of each organization interviewed are attached as Appendix B.

NOTES:

1. National Commission on Libraries and Information Science. Toward a National Program for Library and Information Services: Goals for Action. (Washington, 1975). p. 66.

2. Ibid., p. 66-70.

3. STUDY RESULTS AND RECOMMENDATIONS

A large amount of data was collected in the survey because the interviews resulted in lengthy comments prompted by the questionnaire. In addition, most organizations provided many written reports, brochures, and operating manuals which had to be read and digested. Thus, the task of synthesizing the material collected was a formidable one. A similar effort was required to review the technological development at the Library of Congress, but this task took considerably less time because LC had prepared a set of briefings and lecture notes.

Comparing other library network plans with the plans of the Library of Congress was difficult and time-consuming, and the ideas for new LC services were few. This search for ideas for new services was made more difficult by the breadth of the internal technical development program at LC, which, generally speaking, encompasses almost everything of current interest in library automation. When presented with the current status of LC developments, most persons interviewed could not add technical requirements to the program. They were, however, concerned with how they would fit into the program and asked the investigators what services would be provided, when and to whom they would be provided, and at what prices.

The remaining part of this report is divided into the major activities identified through the survey. Each activity is further subdivided by sections on the survey results and the tasks recommended by the contractors to achieve the functions identified by the survey respondents.

3.1 LEADERSHIP AND THE LIBRARY OF CONGRESS

3.1.1 SURVEY RESULTS

3.1.1.1 National Network Development

Although the investigators were disappointed at the lack of new specific technical requirements put forth by the networks and libraries during the interviews, they did find a more important role for the Library of Congress, namely leadership. Nearly all those interviewed wanted LC to lead in those technical areas surveyed by playing the "major coordinating role" in national network development. Comments made to support this consensus included the following:

1. LC's efforts in developing the carefully thought-out MARC program and associated standards were considered crucial to

the national program. If similar efforts are required in the future, LC should do the work.

2. Several observed that some non-complementary systems which are not efficient for a national network have grown up and were concerned that more may follow. There was some concern about the possibility of system design mistakes, either technical or economic, in regional system developments.

3. Some observed that the Ohio College Library Center system does not have sufficiently effective procedures to avoid duplication of records for the same bibliographic item.

4. Many were concerned about the poor quality of non-LC cataloging records.

5. There was concern about the long-range availability of improved services from the larger network systems such as OCLC; some had already experienced difficulty in obtaining new or modified services.

6. There was a reluctance to budget or commit scarce funds for individual local network development in untried areas, without assurance that such expenditures would produce widespread benefit.

7. Those engaged in development acknowledged the shortage of skilled people and said that a coordination of efforts was essential.

The comments listed above, as well as the lengthy conversations with the individuals interviewed, indicate to the investigators that LC should lead in coordinating the necessary tasks. This would insure that projects are carried out carefully, with proper attention to standards of system compatibility and to coordination of separate regional efforts so that each service function would be performed at the proper place in the network.

The statements which comprise this consensus were in no way a rejection of the interviewees' responsibility for local or regional development, but rather an appeal for the establishment of an overall coordinating authority. They were willing to supply requirements and guidance for the development of the national network and also to purchase services both from LC and from regional networks.

A likely reason for this consensus is that at this time most network organizations do not have extensive hardware, software, and

telecommunications developments of their own. The survey found very little technical development and few innovative projects under way as there were in the 1960s. Development was directed toward local systems, and available system funds were being expended to maintain production capabilities in already demonstrated applications or in ongoing local functions such as acquisitions and circulation control. One notable exception to this general dearth of development is the Ohio College Library Center; however, most of its resources are directed toward supporting and expanding its operational capabilities rather than developing a broader range of new services.

The Bibliographic Automation of Large Library Operations Using a Time-Sharing System (BALLOTS) and the Washington Library Network are two other ongoing projects with organizational and technical potential for serving large numbers of users, but the efficiency of their systems and the cost of expanding their operations to a large network environment are unknown. The flexible BALLOTS search module, which was adapted from a highly sophisticated information retrieval system in existence at Stanford University, requires extensive index update processing. The WLN online cataloging system, which has an automated authority file subsystem, uses a standard data base management package for updating. Neither group could confirm whether their approaches are cost effective when compared to specially designed software for network processing requirements.

Those interviewed understood the reasons that LC has not made faster progress in the development of new automated, bibliographic services, but they felt such reasons were no longer valid. This belief was accompanied by comments that LC's prior work has been good and that its present program appears promising. They rejected the suggestion that alternative organizations such as library associations or any single library network such as OCLC should have the leading role. A few respondents said that if the Library of Congress does not take the lead, the library community may adopt programs from which changes to better, more comprehensive services may take years.

3.1.1.2 Standards Development

All networks interviewed said that LC should also lead in standards development. Some said that LC should do more to encourage the use of standards by the library community and to promote their use through closer association with the American National Standards Institute. This role was recommended because: (1) LC has an excellent record in the work done thus far; (2) LC has a national and international prominence; (3) the LC operations are so large and complex that standards which would work there would be flexible enough to suit a broad range of problems throughout the community; and (4) LC

has the staff to devote to standards development tasks.

Specific areas that the respondents mentioned as requiring investigation included: (1) standards related to telecommunications, including message formats and protocols for bibliographic data communication and interlibrary loan; (2) standards for bibliographic records of federal information resources, including the U.S. Government Printing Office, the National Library of Medicine, and other federal libraries; (3) development and promotion of a national interlibrary loan code to solve the problems created by differences in the existing codes in use; (4) development of standard character sets to encode bibliographic data in certain foreign languages; and (5) definition of an LC "standard" for quality of cataloging data to be transmitted to the national network (a task they acknowledged to be extremely difficult). In addition, a significant number of those surveyed said that the Library of Congress should not initiate work related to book ordering or other acquisitions-oriented standards but leave such development to the American Library Association, the American National Standards Institute, and other organizations representing commercial groups.

3.1.2 RECOMMENDATIONS

In its leadership role in the development of a national network, the Library of Congress has a major responsibility for coordination, which would involve several activities as follows:

3.1.2.1 National Network Technical Planning Meetings

The Library of Congress should organize and conduct meetings of individuals from the development staffs of the various network organizations to accomplish the technical design work required. Attendance at these meetings should be open to any organization which is actively working on library automation. If the attendance gets too large, some sort of "observer" mechanism should be established.

The survey uncovered a major concern about organizations' being uninformed of LC's plans, which could be serious where technical development is involved. Efforts to support bibliographic systems using in-house computers by establishing computer links to a national network are being planned by regional centers and large libraries. Such plans require a detailed knowledge of network interfaces in advance, and these organizations need to be kept better informed of network planning and development.

The respondents who were developing local or regional, i.e., multistate, systems said that there is a great need for a series of meetings to specify the national network computer and communications architecture and urged that this work be given high priority. Regional systems need these specifications so that they can begin to fit their respective efforts into the national system.

It is recommended that the Library of Congress and the regional systems work independently at first to develop proposals for their respective functions, the services provided to others and services needed from others, and their data communications interfaces. When enough individual ground work has been done, these organizations should meet to seek agreement. LC should have the primary responsibility to coordinate proposals, resolving conflict as best it can. In such an endeavor, LC should take advantage of the expertise available throughout the network and provide, during transition periods, the financial support required by operational systems if their services should change in function or scope as they enter the national network.

3.1.2.2 Meetings on National Network Organization Structure

Equal in importance to the need for technical planning meetings is the need for a group to discuss the implications of the computer and communications structure of the proposed national network on the actual organizations involved. Services in the network will be performed at particular levels to make efficient use of the machine and communications resources, but any library must be able to receive service from any organization. Although these links can be handled by the equipment, an organizational structure should be superimposed on the machine structure to administer the operation and its financing.

3.1.2.3 Funding Coordination

The Library of Congress should coordinate the funding for those developments which are crucial to the national network. There will be development in the regional networks, in other government library systems, and in special resource libraries, and all of these projects will require funding. To the extent that some of this development relates to the building of a national network and requires funding from sources outside the organizations involved, the procurement of funds should be coordinated by LC.

3.1.2.4 Working Committees

Because of the large amount of planning to be done, several working committees will be needed. The Library of Congress should establish them and schedule their activities. If any of this committee work involves extensive travel, administrative, or other expenses, LC should also secure support to cover them.

3.2 NATIONAL NETWORK DESIGN

3.2.1 SURVEY RESULTS

To gather specific data on LC's service role in the network, the questionnaire posed a hypothetical national network as a connection of processing centers in a structure similar to a conventional telecommunications system. The investigators had some misgivings in doing this because they did not wish to "stack the deck"; however, some network structure had to be assumed in order to begin talking about LC's role in it. This concern was unwarranted because none of those surveyed objected to the concept; and in fact, the respondents supported and augmented it with their comments.

3.2.1.1 The National Network as a Distributed Processing System

It was not surprising that those surveyed who were developing or administering regional or local systems viewed the national network as an extensive distributed system with centers of computing, data storage, and collection storage connected by telecommunications and physical document delivery systems. Present non-automated systems operate in a distributed manner with requests processed and services delivered up and down a hierarchy or back and forth across adjacent levels, and there appears to be no reason to change that structure. The alternative to distributed processing is to have a single or a few gigantic centers performing all services for everyone, which would be unwieldy because of problems with long-distance, high-volume communications and document delivery.

The advantages of a distributed system are numerous, but the ones regarded as important by those surveyed were: (1) system reliability through redundancy in storage and computing; (2) communications efficiency resulting in lower costs; (3) use of existing local computing to save costs; and (4) local control of local processing functions.

3.2.2 RECOMMENDATIONS

3.2.2.1 Centralization of Functions in a Distributed System

Although the concept of distributed processing was readily accepted by the respondents, the investigators do not recommend that all functions be decentralized. Centralization of functions should be used where economies of scale or other advantages outweigh the disadvantages of having to communicate with a center. For example, if the Library of Congress catalogs substantially more items, there might be a corresponding decrease in the number of times the LC authority files have to be consulted to validate headings or in the number of times problems might occur in the interpretation of cataloging rules by outside libraries. While complete decentralization of cataloging would lead to chaos, complete centralization of this function would be impractical and unrealistic. What is needed is a judicious mix of decentralized input of catalog records with centralized control through authority files and standards.

3.3 DEFINITION OF SERVICE ROLES FOR LC IN A NATIONAL NETWORK

Assuming a distributed processing environment for a national network, the survey proceeded to topics related to LC services. To assist in the interviewing process, the questionnaire enumerated the existing or proposed LC services, and the investigators proposed, for review and comments, several new ideas not yet planned at the Library of Congress. The questionnaires thus prompted responses and suggested topics which the interviewees could identify as important.

The services requested by those interviewed are categorized as follows: (1) catalog and authority control data distribution; (2) information dissemination and communication services; (3) union catalog maintenance; and (4) personnel training.

3.3.1 CATALOG AND AUTHORITY CONTROL DATA DISTRIBUTION

3.3.1.1 Survey Results

Catalog data distribution was, is, and probably will be, for some time, the most important service the Library of Congress provides to libraries throughout the United States. The survey asked the organizations about their use of LC cataloging distribution services, such as printed cards, book catalogs, cataloging aids, or MARC tapes. Comments, criticisms, and suggestions for new services as well as the improvement of existing services were invited. The following responses were obtained.

Development of a National Bibliographic Data Base

The missing component in the plans of most regional centers or large libraries acting as processing centers is access to a national data base from which machine records, including older and lesser used cataloging data, could be obtained. The intent of these centers is to process current cataloging for their members, as well as to perform catalog maintenance functions. What they need is a national data base to search as a "catalog of last resort." Records obtained from this national data base would be processed automatically.

With the decrease in computer storage costs in recent years, system designers have recognized that cataloging data for items held by libraries serviced by a processing center can be stored economically. Further, low storage costs allow all current MARC records to be stored economically until the majority of initial acquisitions and cataloging can be accomplished. What is needed by designers of regional systems is access to and transmission of retrospective MARC records and the records not cataloged by but contributed to LC. With such access and delivery, a regional processing center would be able to provide a full range of technical processing services to its members.

Of those interviewed, the network organizations that were not "brokers" for OCLC services were most interested in the above concept; however, almost all OCLC users or distributors who have or have had plans for providing computer-based cataloging services also understood and supported the idea. One of the dissatisfactions with current OCLC plans is the apparent omission of intent to provide transmission of MARC records for processing either at the subregional or individual library level.

The few interviewed who had a working knowledge of LC's computer environment and who were themselves system developers said that the requirements of distributed processing and the national bibliographic data base with their associated communications links would require a dedicated computer installation at the Library of Congress. The investigators believe that this recommendation should be incorporated into LC's plans.

Improving Timeliness of LC-Supplied Bibliographic Records

As might be expected, all those surveyed wanted the time reduced between the appearance of a book and the appearance of its bibliographic record. This comment encompassed all forms of LC cataloging data, e.g., MARC records, Cataloging in Publication (CIP) records, catalog cards, and book catalogs.

Affected most severely by the cataloging delays for highly used books are the libraries that use approval plans, because the initial

coverage of MARC records provides only sixty-five percent of the cataloging copy desired. That is, the first MARC tape, which appears shortly after the items have been published, contains cataloging copy for only sixty-five percent of the items. The public libraries surveyed feel the pressure to circulate books quickly, so that even a short delay in the appearance of cataloging data on MARC tapes results in costly original cataloging and an additional cost to reprocess records to use LC MARC data when they are available. This is especially irksome when the catalog record for a trade book is not found because the cataloger knows it will eventually appear on a MARC tape. The timeliness of bibliographic record delivery is so crucial that it prompted one public library, upon hearing of LC's extensive technical plans, to comment: "LC should do better what it has already started before extending itself into other areas; MARC is too slow for public libraries."

Comments about promptness of cataloging were so prevalent that the investigators rank it next in importance to the availability of a national bibliographic data base as a required service. Users of the OCLC system do not feel the effect of cataloging delays as strongly because only the first library that searches and does not find the MARC record must catalog the book.

But this advantage for OCLC users is short-lived because it leads to comments and complaints by other users about the non-availability of LC cataloging and the poor quality of non-LC cataloging. Original input by OCLC members can also lead to multiple records in the data base.

Improving Coverage of LC-Supplied Cataloging

The respondents ranked the increase in coverage of LC-supplied cataloging next in importance to timeliness in availability of catalog records. To this end, the Cooperative MARC (COMARC) program was endorsed. Again, requests were made that COMARC records be available through an online service rather than through a tape distribution service.

Although those surveyed did not have additional suggestions for ways to increase LC's coverage of cataloging, they endorsed unqualifiedly any feasible efforts to improve the service.

Causes of Cataloging Delays

One library in the National Program for Acquisitions and Cataloging pointed out a useful distinction between cataloging delays caused by errors made by the publisher or the Copyright Office or the LC catalogers and delays caused by low cataloging priority or heavy

cataloging workload at LC. This particular library discovered a significant number of ordinary trade books for which cataloging was not available. These items should have been processed by LC after being forwarded from the Copyright Office, but they had neither been cataloged nor found in the in-process file. This omission might have been caused by a number of slip-ups, from the publisher's not forwarding a copy of the book for deposit in the Copyright Office to loss or misplacement somewhere in the LC cataloging process.

The prevalent opinion that cataloging unavailability can be attributed largely to the volume of cataloging that has to be done at LC is true; however, it is also possible that delays can be caused by slip-ups. It is useful to remember this distinction. Although in the final analysis the unavailability of cataloging at a search terminal may appear as a single problem, it may be caused by multiple problems for which multiple solutions may be required.

Access to the LC In-Process File

One of the services proposed by the investigators at the outset of the project was to provide network users with access to the in-process file at the Library of Congress for the following purposes: (1) to determine whether an item is in the cataloging process; and (2) to post a user-specified cataloging priority to that item. The anticipated result would be that more pertinent items would be fully cataloged more rapidly. Such a system would also identify more quickly the items lost in processing. The rationale for the proposal is the result of an unofficial internal LC study which shows that the number of titles not cataloged by LC approximately equals the number of titles cataloged and distributed by LC that no one else ever uses. If these categories were exchanged so that what was needed was cataloged sooner, the catalog coverage provided by LC, as viewed by the library community, would be nearly complete.

The study also shows that LC coverage increases steadily with time so that many titles are eventually cataloged. If a needed title could be cataloged sooner, the usefulness of the service would be greatly improved.

The task of making an accurate decision on the cataloging priority for a book is expensive if not impossible for LC to do considering the scope of the material it acquires. It seems reasonable, therefore, to enlist the aid of users in assigning priorities to the remaining items, once the obviously high priority books have been identified and processed. This could be carried out with access to the LC Automated Process Information File (APIF) by outside libraries. Using a search terminal, a library could access the LC MARC file to see if a desired item were available.

Alternatively, a regional MARC file could be searched. If an LC record were not found for a title, the LC APIF could be searched. If found in the APIF, the user could then request cataloging to be completed. If not found, a report would be made so that this title could be located, acquired, and cataloged.

This concept would affect the LC selection process because if LC has not acquired an item and entered a record in the APIF (and if there were no slip-ups), there is no book to catalog. Such titles would have to be acquired, a task that would cause considerable delay at a point where rapid action is desirable because an outside library is waiting to process this item.

An improvement to this idea of user access to the LC in-process file would be allowing user access to the items before selection, that is, before entry into APIF. If foreign MARC records were made available through online access, this would allow users to search those files; if a title were in the foreign MARC file and not in the APIF system, a request could then be placed for its acquisition and cataloging by the Library of Congress. Although such a procedure could reduce the original cataloging workload of outside libraries, it would not eliminate the need to do original cataloging entirely because some libraries could acquire items before they appear on a foreign MARC tape or the country in which the item was published may not have a MARC system.

In the survey these ideas were endorsed by all libraries large enough to have sizable original cataloging workloads. One comment was that "LC's acquisition and cataloging policy determines our cataloging workload." Two NPAC libraries surveyed were also enthusiastic for they could see the system reducing the cost of their reporting and of the subsequent searching by LC.1/

Cataloging Input from the U.S. Government Printing Office and Federal Libraries

During the survey, the U.S. Government Printing Office (GPO) began a project to produce its Monthly Catalog of U.S. Government Publications from a MARC record data base. In addition, GPO is disseminating its machine-readable records to the library community through the LC MARC distribution service. The investigators asked the libraries surveyed what they thought of this service. It was endorsed, the primary comment being that more federal libraries should use MARC distribution channels for the dissemination of cataloging for publications issued by their agencies. The respondents stated that significant numbers of government documents were treated by outside libraries as book materials. Many of these documents were not cataloged by LC, and this omission has created a sizable original

cataloging workload for outside libraries; therefore, the inclusion of government documents cataloging by federal agencies into MARC distribution channels would be a tremendous help.

There are many technical and organizational problems to be investigated before this source of cataloging could be integrated into a national network. One problem is that many of the government libraries are "special" libraries and, as such, use non-standard cataloging and classification schemes designed to meet their particular needs. Therefore, any approach would have to include a solution to the technical problem of satisfying a local need while supplying cataloging data to a national system. A second problem is that some documents are not worthy of being cataloged for permanent collections, and the selection of those to be cataloged will involve additional effort, thus adding another decision-making step to the process.

Finally, because of the variation in size and cataloging capabilities in the federal libraries and the variation in the amount of material produced, it is not clear at this time what organization should do the cataloging: the library of the federal agency issuing the document, GPO, LC, or another national library.

Expansion of Cataloging Coverage through Decentralized Input

The libraries interviewed said that shared cataloging, or decentralized input, has a place in the national network even if there is a substantial increase in LC's own cataloging coverage. The problem to be solved, however, is to insure that there is a controlled method for the establishment and maintenance of entries. If this control is not achieved, there will be complaints about the resulting national cataloging data base as there are with the National Union Catalog, the OCLC data base, and other union cataloging systems.

The procedures being developed and used in the COMARC project are surely pertinent to this problem.2/ COMARC processing is simpler because COMARC deals with LC catalog records; however, the searching and verifying operations are similar to those needed to provide the necessary control of shared cataloging.

The responses from the survey leave unresolved the question of what would be the best method to accomplish the bulk of shared cataloging. One method suggested by an NPAC library is to use designated "cataloging centers" or "centers of excellence" at libraries with major acquisition programs in specific areas of lesser used materials. These centers would use LC-approved procedures, with standards of quality control and established liaison and data communication with LC. The other method of shared cataloging is to

have individual libraries contribute their cataloging to a national data base with some sort of review at the Library of Congress.

Authority Control

In the survey, discussion of the role of shared cataloging and its problems often led to the topic of authority control and the maintenance and distribution of authority records, because authority control is a critical component in the development of a national bibliographic data base. Respondents also wanted to reduce the cost of operations associated with establishing entries and to insure the integrity of the catalog to make it more useful in reference work.

When told of the current LC activities in converting the LC name and subject authorities to machine-readable form and producing cumulative microform editions, the respondents were enthusiastic. Many of them also wanted online access to these authority files. Upon further questioning, they were not able to give specific reasons or plans for using the online authority files but believed that the benefits would be similar to those achieved in online input of catalog records. No comments were offered on what would be a reasonable cost for the required technique.

3.3.1.2 Recommendations

Plan for Future Services

A plan for the implementation of all LC services should be compiled and distributed to the library community. The plan should contain a description of the service, the organizations in the national network that will be allowed access to the service, the date when the service will be installed, and the price of the service. Such a document should be updated on a regular basis to reflect changes in plans, inclusion of new services, etc.

NPAC Libraries Online to LC

Because of the strength of the idea of outside user access to the LC Automated Process Information File, the favorable comment on and augmentation of this idea by the libraries visited that belong to the National Program for Acquisitions and Cataloging (NPAC), and the importance of the NPAC libraries' reporting process to LC's acquisition of resources, the investigators believe that putting the NPAC libraries online to the LC files would be a worthwhile project. While there are other libraries that desire online access to these files and that undoubtedly have proper reasons for access in the

future as additional LC services are developed, it is appropriate at this time to select the NPAC libraries as the test group.

The real objective of the pilot project, however, is to test the concept of assigning (or changing) cataloging priorities at LC through the procedure of NPAC reporting. A secondary objective for the pilot is to achieve as soon as possible a test environment for experimenting with a national bibliographic data base. Such experimentation is needed to aid in the development of search and communication components of the national bibliographic data base.

Cataloging Input from Federal Libraries

Because of the number of existing problems, a study is needed to review the present cataloging activities of federal libraries and the Government Printing Office (GPO) and propose a plan to integrate their output into the national network. It seems appropriate to have the Federal Library Committee together with representatives from GPO, the Library of Congress, and the National Commission on Libraries and Information Science manage this study.

There is a related problem concerning the cataloging role of the National Library of Medicine (NLM). The survey uncovered a comment from a medical library that initially used NLM cataloging because it was faster than LC, then recataloged using Library of Congress subject headings because the latter covered more of its acquisitions. Such recataloging involves a duplication of effort. This is a technically complex problem because both LC and NLM cataloging are linked to extensive technical service and cataloging distribution systems. It appears that the only feasible approach to the problem is to continue the liaison between NLM and LC and to develop a long-term program to resolve the differences.

Decentralized Input

Two methods to accomplish decentralized input or shared cataloging include the use of: (1) designated cataloging centers or centers of excellence that would follow LC procedures and standards and have liaison and regular communication with LC; and (2) contributions from individual libraries, followed by some sort of review process at LC. The national network cannot exclusively use one method or the other. The chosen method should contribute to the efficiency of the entire cataloging process, including enough LC controls to insure that the cataloging was of acceptable quality. A study is needed to investigate the advantages and disadvantages of these two approaches to see where each is most efficient.

The review process mentioned above might include an authentication procedure which involves a dialogue between the original cataloger and the LC authority control mechanism. The COMARC concept could be extended by devising a system where the cataloger searches an LC authority file, determines that a heading needs to be established in the LC authority file, creates the authority record, and forwards it to LC for inclusion in the system. Before "authenticating" the record, the LC staff would have to see the bibliographic data prepared by the cataloger, which would then begin a dialogue. This dialogue would continue until all conflicts were resolved. This concept appears sound and technically feasible if adequate communications and searching techniques were available; however, it is evident that a design study is needed to develop the best approach to achieving an operational system.

Authority Control

An online authority system would be useful to the network if the workload were high enough and if the output of the authority control process could interact automatically with the cataloging operations and with the updating of the bibliographic files. Further study would indicate how many libraries throughout the national network need such online services. Most of the large libraries interviewed expressed interest in such services, and some thought these services would help them to regain the authority control which had slipped or deteriorated because they lacked the resources to keep the authority file up-to-date by manual methods. Several of the networks and libraries visited had plans for authority control systems, and one had an operational system which made use of LC subject heading tapes; however, none of the organizations interviewed had any definite on-going developments for integrating a national online mechanized authority control operation into their system. From this response it appears that it will fall to LC and the national network designers to specify the form and mode of use of a standard authority control service.

3.3.2 INFORMATION DISSEMINATION AND COMMUNICATION SERVICES

3.3.2.1 Survey Results

One of the most frequently stated requirements reported by the networks and libraries visited was to be kept informed of LC activities in the present, near future, and distant future. The information requested was of several types:

Technical Information

Requests for technical information should not be confused with training assistance, which is discussed in a later section, but consist of queries for data to satisfy a local production operation problem or a requirement for detailed systems level information. A more complete LC service is needed to disseminate data describing current practices, planned changes in policies or procedures, or long-range plans which might affect local system development. Most networks surveyed said that this type of information from LC was very important to them. In addition, they said that technical information dissemination needed to be separated from LC's public information dissemination, and such an effort should be a separately funded and staffed program, not an additional duty for the already busy development and technical services staff at LC.

For example, several libraries wanted to know current cataloging priority assignments for different languages and subject areas so they could determine with more accuracy the disposition of books for which no LC copy was available. Another request was for a "Cataloging Hot Line" or "Trouble Desk" which catalogers could contact with specific problems at hand. Still another request was for information on long-range plans for services so that proper interfaces and division of responsibility could be established between LC services and local system services.

Information Dissemination via Publications

Recurring queries or discussion topics and news of new services and plans are handled nicely by the existing LC publication program. Printed book catalogs and other cataloging tools were excluded from discussion in the survey; items that were discussed included publications such as the LC Information Bulletin, the Cataloging Service Bulletin, and so forth. All of the libraries surveyed welcomed these publications and offered the comments which follow:

1. Cataloging Service Bulletin: Most libraries found this publication very useful. Numerous requests were made for an index. Other libraries said that it would be valuable to have the rationale for the cataloging decisions included in the publication.

2. MARC Decisions: This is presently an in-house document which some outside organizations have obtained by special arrangement. The survey uncovered a substantial interest in obtaining the publication and its updates on a regular basis.

3. MARC Manuals: Most users of this publication expressed a preference for having it issued in loose-leaf form so that

updates could be inserted more easily.

4. Symbols of American Libraries: Many libraries requested that this publication be updated more often.

Information Dissemination via Conferences, Workshops, Committees

The libraries interviewed endorsed the efforts of the Library of Congress to participate in conferences, workshops, and committees as an effective method of disseminating information. The recent workshop on LC automation activities sponsored by the Information Science and Automation Division of the American Library Association in 1976 was cited as an example of a worthwhile meeting. Participation by LC staff as invited speakers in state and regional library conferences was also suggested as a good method for disseminating information. Finally, some respondents suggested that the participation of LC staff members on working or governing boards of network organizations would be helpful.

Information Dissemination via Exchange of Personnel

One library interviewed suggested that the exchange of technical personnel on a temporary basis would be a good method for making LC and outside libraries aware of each other's problems and plans. Others thought this to be a good idea but restricted it to exchange of LC personnel with regional network headquarters personnel. Although, strictly speaking, the LC intern program does not involve the exchange of staff with other institutions, most of the respondents thought very highly of the program and felt that it should be expanded. Library administrators with staff members that had been through the program said that the knowledge gained of LC operations was very useful in some of their own local operations.

3.3.2.2 Recommendations

Development of a Computer Mail Service

It became obvious to the investigators when listening to the respondents discuss the requirements, methods, and problems of achieving shared cataloging and authority control, a substantial amount of verbal communication would be needed to and from LC, in addition to the data transmission system required by the national bibliographic data base. Such verbal communication is needed to solve cataloging problems, to seek advice, to communicate information about the latest policies, and to aid in training. It was also apparent that additional communication would be required in other LC service

roles associated with location reporting, interlibrary loan, or reference support.

Although a technical requirement for a large amount of this communication is that it be verbal, in most cases it does not have to be voice. Teleprinter messages will suffice. This led the investigators to an idea that a "computer mail" system could be superimposed over the proposed data communication links that will be used to transmit bibliographic data and queries to the Library of Congress. Such a technique has several advantages.

1. The system is extremely easy to use. Any person who uncovers a problem or question at a terminal can "shift" to a computer mail mode and type messages. After completing the message, the person simply "shifts" back to searching, keying records, or whatever task was underway at the time the question presented itself. Answers are received by shifting to the mail mode (looking in the users' "mail box"), at which time the response will be printed at the terminal.

2. The same terminal and telephone line equipment used for data searching and transmission can be used for computer mail.

3. Very little machine and telephone line capacity are required by the computer mail process when compared to other data transmission requirements, so the computer mail will not overload the lines and equipment.

4. Message centers or "mail boxes" can be established for the various LC units where service activity requires them. All routing would be done automatically by computer.

5. For a good deal of message communication to LC, real-time (instantaneous) response is not needed, but time lags of days or weeks would be unsatisfactory. Teleprinter output is ideal for this service because it eliminates the need to have an LC staff member available at all times to answer the telephone. Also, responses can be processed by LC staff in batches in an orderly fashion without continuous interruption from the telephone.

6. The system is extremely cost effective when compared to the administrative or overhead expense of sending queries by mail where a letter must be written, typed, addressed, mailed, opened, and routed. These steps are involved even for very short queries. The responses require the same

operations. With computer mail, only two people are involved: the person making the query and the person responding to the query.

7. The storage and filing of these messages can be automatic. This would be of great help if the LC staff wanted to analyze query traffic to determine in which areas to create, modify, or clarify manuals of procedures, standards, or policy.

8. The implementation of a computer mail system is quite simple and, therefore, inexpensive. It involves only establishing a set of programs to sort messages into files automatically and to print messages from the same files ("mail boxes"). The terminal equipment, telephone lines, and computer requirements for the system are the same as those which must exist to carry out the basic bibliographic data processing services.

Because of the importance of the communication function and the potential effectiveness of the computer mail idea, it is recommended that a study be made to analyze the application in more detail and design a configuration which will fit into the architecture of the national network.

3.3.3 UNION CATALOG MAINTENANCE

3.3.3.1 Survey Results

In responding to questions concerning the role of the Library of Congress in union catalog maintenance and the related subject of interlibrary loan (ILL), the libraries commented on a wide variety of component system services, from communications to document delivery. Because of this variety, it was difficult to obtain a consensus from these comments.

There is a significant difference in the use of interlibrary loan by public libraries and its use by research libraries, and this results in their requiring different kinds of services. Public libraries generally have users who need rapid response and delivery, and their ILL requests are usually satisfied at the local or regional level. Their needs for location information can be satisfied by the smaller union catalogs in printed or online form from these local or regional systems. Research libraries, on the other hand, need access to large union catalogs and location-finding tools to find more specialized works.

The college and research libraries advocated an active role by LC in the ILL functions of the national network. LC's role in supporting the National Union Catalog was judged very important, and suggestions were offered to extend its usefulness. Two of these were quite expensive: (1) a requirement that the NUC be online, and (2) that LC should provide a toll-free communications system for access. Many OCLC member libraries used the OCLC system as an ILL tool, and its success was used to support their view that their suggestions were valid and would provide a useful service. These libraries also expressed concern about the different codes used to represent library locations in the OCLC system, other local systems, and the National Union Catalog. Others interviewed wanted LC to develop the standards for ILL message communications to be used in the national network.

The libraries acknowledged that the technical and economic problems related to physical delivery of documents remain an unresolved issue confronting interlibrary loan. Another problem was apportioning the cost of ILL since the larger libraries generally provide more services than they receive.

The resolution of these problems cannot be deferred much longer because it is expected that the number of ILL transactions will increase as full bibliographic control is accomplished at all levels in the national network. Computers and telecommunciations can make the availability of materials known to anyone at a cost he can afford. Delivery of materials or images, however, may not be as easy because it involves largely manual labor. Tasks such as book withdrawal, shipping, and transport are all costly, manual operations. No one surveyed had any clear ideas on how these services should be paid for.

3.3.3.2 Recommendations

Integration of Bibliographic Records and Holdings Data in a National Data Base

From the discussions with the libraries interviewed, it is evident that to support interlibrary loan functions in the national network, the Library of Congress must integrate the access to bibliographic or cataloging data with the access to holdings or location data. The national bibliographic data base should contain all bibliographic items available in the network, and access to this data base should be through regional data bases containing high-use items so that the total computer and communications systems could be made efficient. In addition to access to the bibliographic data, a link is needed to the holdings or locations file to find the resources in the national network. Access to holdings information will also be possible through regional centers so that costs for communications and

physical delivery of items could be minimized.

Specifications for the software, hardware, and communications requirements for these functions related to interlibrary loan should be included in the design of the machine and communication systems for the national network.

Development of Interlibrary Loan Communications Standards

General message communications standards to which all types of national network telecommunication traffic will adhere for multi-purpose use of the line facilities should be developed (see Section 3.1.1.2); however, within this standard the message structure for ILL should be defined.

A message format could be designed incorporating what is presently on a standard ILL form, but further study is needed to determine what other data should be recorded, transmitted, and processed by the system. There are also two other areas where additional data may be needed: (1) analysis of funding requirements and funding sources for ILL operations; and (2) analysis of patterns of use.

Location Codes

The proliferation of different library location coding schemes can be partly attributed to the lack of national coordination of network system components. An interim solution might be to establish a look-up system so that a terminal user could operate in the code of his preference, with the network computer system's performing the conversion to another coding scheme if necessary. Resolution of the question of what kind of code, e.g., alphabetic or numeric, should be used or developed for use in the national network should be the topic of another investigation.

The investigators think that the solution to this problem of different location coding schemes is less urgent than the development of a capability to aid in the creation and routing of ILL messages in the national network. Such a capability would probably require automatic naming, addressing, and routing information to be created at request time. This information will require a sophisticated look-up system which should be flexible enough to handle code conversion techniques as well.

Automated Reporting of Holdings

One feature of the LC computer-based Register of Additional Locations allows much of the location reporting to the national

network to be a byproduct of a library's local or network automated technical processing activity. In other words, location reports could be submitted via magnetic tape or online transmission.

The apportionment of holdings data or records between a national network holdings file and a regional holdings file, if deemed desirable, should be an automatic operation. A national locations reporting system and a national locations data base should be designed to minimize storage costs and to direct access to the regional centers whenever possible.

3.3.4 PERSONNEL TRAINING

3.3.4.1 Survey Results

The extent to which the Library of Congress' services and procedures have an influence on the daily operations of libraries prompted most of those interviewed to state that library schools should prepare their students with a more thorough knowledge of LC operations. Also, most of those interviewed said that the assistance they received directly from LC was greatly appreciated and that they would welcome any further training assistance offered. Areas of most interest for further training were cataloging, serials control, and the application of data processing to library operations.

Comments on how this training should be accomplished varied widely, and there was often confusion when discussion led to the distinctions between training and the dissemination of detailed technical information needed by regional system designers. One point of guidance offered by many respondents was that LC should augment the role of library schools and training sections in network organizations rather than replace any of their programs. Specific suggestions are as follows.

LC's Role and Activities in Library School Curricula

One important point made by a few of those interviewed was that library school curricula should present the actual role of LC as it affects an individual library's operations. Often in an attempt to provide a theoretical background for a student, the school neglects both the practical aspects of library operations and a description of LC's supporting role. These respondents thought that LC should see that library school curricula contain an accurate description of LC's role.

It was also pointed out that there is no available document that describes LC's activities in a way that emphasizes its supporting role

clearly and concisely. Such a document would be useful in any library school course covering this topic.

Training for Instructors in Library Schools and Network Organizations

Most of those interviewed thought that the Library of Congress should provide programs of instruction for library school professors and network training supervisors. If these teachers were taught about LC practices, they could then teach others in library schools and throughout the national network. These programs could consist of short formal courses, seminars, or workshops similar to those sponsored in the past by LC or ALA's Information Science and Automation Division.

Instructional Materials

The respondents who thought that the Library of Congress should provide training for those who would then teach others also suggested that LC provide as much documented material on their activities as possible. All internal training aids, reports, and manuals would be useful. It would also be helpful if this material were written for library school use. Even if it were not, the material would still be useful because it would be easier to rewrite such information in a form suitable for course work than to compile such course material solely from notes taken at LC training sessions.

Training for Network Personnel

A significant number of networks requested that LC train personnel for work in designated centers throughout the network, which might be located at large libraries or at regional network headquarters. This comment in most cases was contingent on the designation of libraries or networks as repositories, as centers for shared cataloging, ILL, or for some other service. In such instances, those interviewed thought LC should set the standards and provide training to achieve them.

The skills in which training was requested included all library functions, but most of the requests were in the following areas: cataloging, COMARC procedures, reference, ILL, serials cataloging, state documents, and library management.

3.4 SUPPORT OF REFERENCE ACTIVITIES

3.4.1 Survey Results

The survey uncovered only a small amount of information related to the support of reference work from the national network. The only request recorded in the interviews was to have network access to the data bases created by the LC Congressional Research Service.

This lack of interest was understandable because many of the organizations interviewed were network centers whose initial efforts are still dominated by support of technical processing activities. This overriding interest in technical processing reemphasizes the fact that although MARC is nearly ten years old, libraries are still not able to use fully the available machine-readable records to mechanize their entire technical processing operations. Automated technical processing services are still not available nationwide, and shortcomings and delays in obtaining cataloging data result in a significant amount of non-automated processing.

Some respondents appeared disappointed that savings created by technical processing mechanization were not being expended in the reference or reader service areas. Any such savings were used to minimize increases in budgets, and the prevailing attitude of minimum support to students and researchers doing reference work was unchanged.

In contrast, the responses from the public libraries with respect to reference work were much more optimistic. Reference services are a more dominant concern for them, and although no specific requirements were offered, one comment prompted a possible area for fruitful development. LC subject headings, which are being adopted by public libraries in increasing numbers because of cost efficiencies, are not adequate for public library use because many of the terms do not reflect current usage. Changing headings on cards to add new terminology is not practical because of costs involved in modifying cards, so many public library staff members spend a considerable amount of time "translating" existing subject headings to terms in popular use for reluctant patrons (who may not want to ask in the first place).

3.4.2 RECOMMENDATIONS

A scheme that appears to be feasible and was endorsed by the public libraries interviewed is the development of an online system that could be used by patrons to identify established subject terminology for topics of interest by converting the terms used by the patron to the terms used in the cataloging record's subject headings.

NOTES:

1. As part of the National Program for Acquisitions and Cataloging (NPAC), several major research libraries contribute reports of titles they are acquiring that had not been cataloged by the Library of Congress. These reports are searched in various LC files, and if not found, the titles (approximately 20%) are acquired and cataloged by the Library of Congress.

2. The COMARC (Cooperative MARC) project has been operated by the Library of Congress with funds from the Council on Library Resources. Records eligible for COMARC are those converted to machine-readable form by outside libraries using LC cataloging records as the source of input. Such records had not been included in the current MARC distribution services because they represented retrospective conversion or were in languages not covered by the distribution services. Upon receipt of these records, Library of Congress staff would check them with the corresponding printed card entry in the LC Official Catalog to verify that the data had been transcribed correctly or to update the record with changes that had been made to the LC entry but not reflected on the copy used by the contributing library.

4. CONCLUSIONS

One of the principal findings of this study on the role of the Library of Congress in the emerging national network is that the Library should assume leadership in network development activities by performing the major coordinating role in applying technology and acquiring funding for the technical and standards-related tasks required to link federal, multistate, state, and local systems into the national network. Other recommended activities include: (1) continuing its role in the creation and distribution of cataloging and authority control data, increasing its cataloging coverage, and reducing cataloging delays; (2) establishing and maintaining an online national bibliographic data base of cataloging and authority data to be accessed as a source of last resort by participants in the national network; (3) continuing to create and maintain a national union catalog in machine-readable form for the use of participants in the national network to locate resources; and (4) expanding its information and training programs substantially to inform the library community about the development and operational status of its activities as well as those of the national network.

Of the tasks recommended in this report to support these findings, the following should be undertaken in the order listed below. (1) Meetings should be held with appropriate individuals to develop the specifications for the telecommunications and computer architecture of the distributed computer processing system required by the national network. (2) Meetings should be held with appropriate individuals to determine the organizational structure of the national network so that the levels and the access routes by which individual libraries are served by the network can be defined. (3) A pilot project should be established with selected libraries that are participating in the National Program for Acquisitions and Cataloging to allow them online access to LC's cataloging and in-process files and to request, via telecommunications lines, various services, e.g., changing the cataloging priority for an item or ordering an item. (4) A computer mail or message system should be developed, superimposed over the computer data transmission network, to send messages to and from LC, using the same terminals and remote computers used for searching and record transmission. This system could be used to support reference and interlibrary loan activities as well as to provide answers to cataloging questions. (5) A plan for the implementation of various LC services should be compiled and disseminated. The plan should contain a description of the service, the date when the service will be installed, and the price of the service.

In its program document, the National Commission on Libraries and Information Science stated: "The participation of the Library of Congress is crucial in the development of a National Program and to the operation of the nationwide network because it has the capacity and the materials to perform many common services in both the areas of technical processing and reference and because it can set national bibliographic standards for the program."1/ Meeting such a challenge will require continuous management support at the Library to insure that the necessary tasks to achieve these goals are performed and that the funds needed to implement these tasks are obtained at the earliest possible date.

NOTE:

1. National Commission on Libraries and Information Science. Toward a National Program for Library and Information Services: Goals for Action. (Washington, 1975). p. 67.

Appendix A

ADVISORY COMMITTEE FOR THE STUDY

ADVISORY COMMITTEE FOR THE STUDY

Name	Title/Organization
Warren J. Haas	Vice President of Information Services and University Librarian, Columbia University
Frederick G. Kilgour	Executive Director, Ohio College Library Center
Samuel Lazerow	Senior Vice President, Institute for Scientific Information
Lawrence Livingston	Program Officer, Council on Library Resources
Maryan E. Reynolds	Former State Librarian, Washington State Library
James P. Riley	Executive Director, Federal Library Committee
William J. Welsh	Deputy Librarian of Congress, Library of Congress

Commissioners of the National Commission on Libraries and Information Science

Andrew A. Aines

Joseph Becker

Carlos A. Cuadra

National Commission on Libraries and Information Science

Alphonse F. Trezza, Executive Director

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Appendix B

LIBRARIES AND NETWORKS INTERVIEWED

AMIGOS BIBLIOGRAPHIC COUNCIL (AMIGOS)

Address:	University of Texas at Dallas - MacDermott Library 2400 N. Armstrong Parkway, Drive E P.O. Box 688 Richardson, Texas 75080
Telephone:	(214) 690-2595
Individual Interviewed:	Mr. James H. Kennedy, Executive Director
Date Information Obtained:	June 17, 1976 (revised March 15, 1977)

I. Current Status

A. Organization

AMIGOS is a seven-state library and resource-sharing cooperative now "brokering" Ohio College Library Center (OCLC) services to approximately eighty-five libraries in the Southwest. This not-for-profit organization began in 1975 with the adoption of an annual budget and bylaws, but without a formal charter. AMIGOS' staff of seven people is an agency of the Interuniversity Council of the North Texas (IUC), a not-for-profit, tax-exempt organization chartered in 1964 to strengthen the higher education resources of Texas and (per a 1975 amendment to its articles of incorporation) the Southwest. AMIGOS functions under the auspices of the Board of Directors of IUC and reports to the board which sets broad policy and must act on policy matters such as annual budgets, financial loans, major contracts, and expansion beyond the Southwest. AMIGOS itself has a nine-member Executive Board consisting of the AMIGOS officers and five elected member representatives. The executive directors of AMIGOS and IUC, respectively, are ex-officio, non-voting members of the AMIGOS board. The IUC delegated responsibility for operation of the AMIGOS network as follows: (1) the AMIGOS executive director, who conducts the daily business of AMIGOS, reports directly to the IUC board in behalf of the AMIGOS board; (2) not-for-profit organizations in the Southwest may join AMIGOS

by obtaining approval from AMIGOS's executive director; and (3) IUC board approval may be needed for potential members desiring special services.

B. Services

AMIGOS provides all OCLC services to its members via a contract with OCLC. Over one hundred sixty OCLC-100 terminals on five dedicated 2400-baud multidrop lines are used by AMIGOS members for cataloging, ordering card sets, determining potential lenders for interlibrary loan (ILL) materials, serials check-in, and for bibliographic verification. Working with another vendor, AMIGOS offers its members microform catalogs produced from OCLC archive tapes. Extensive training in OCLC systems and procedures is offered by AMIGOS for initiating new members and for introducing new service features to existing members and to library school faculty and students. The AMIGOS Serials Cataloging Manual is used nationwide as a working reference guide for OCLC terminal users or as a basis for new, local documentation. Other AMIGOS manuals and memoranda inform network members about recent and planned system developments and administrative matters. A library liaison officer at AMIGOS headquarters handles trouble calls from the membership. Only exceptional problems are referred to OCLC.

In addition to AMIGOS' OCLC activity, IUC sustains an ILL program among the fourteen North Texas universities whose presidents comprise the IUC board. Private line teletype, daily courier service, IUC-wide borrower cards, and a duplicate exchange program have been in operation for several years.

C. Finances

A grant from the Sid W. Richardson Foundation enabled IUC to purchase the initial terminals for its Texas libraries and to close out a bank loan previously negotiated for that purpose. LSCA Title III funds from the Texas State Library enabled AMIGOS to produce and evaluate microform catalogs and to conduct studies related to publication, training, and cost-effectiveness. A member initiation fee for start-up and training plus a surcharge on first time uses (FTU's) supports the AMIGOS operations. Some of the future OCLC services may receive an AMIGOS surcharge, but currently all OCLC costs except FTU's are passed on to the members without additional charges from AMIGOS. AMIGOS staff members have been officially appointed as members of The Association for Graduate Education and Research of North Texas (TAGER) in order to receive certain group fringe benefits.

II. Experiences and Results

The major IUC activity and the one requiring the most cooperation was the OCLC-based network. In 1974 (before AMIGOS was established), IUC had twenty-three libraries with thirty-one terminals on a single leased telephone line between Dallas and Columbus, Ohio. Electronics maintenance was provided by TAGER. From the early stages of planning and implementation to the present time, IUC and its AMIGOS network sought advice from libraries throughout the Southwest. In fact, a Bibliographic Network Committee of IUC got the board to posit that its "primary geographic sphere for network expansion comprised a six-state region encompassed by the Southwest Library Association." In one state, Louisiana, both the Southeastern Library Network (SOLINET) and AMIGOS are active. Geography, proximity of other potential ILL partners, and communications cost-effectiveness determine which network will service a given Louisiana library.

The AMIGOS service has grown and has allowed the Southwest to "share library resources like never before possible." In the first half of 1976, AMIGOS averaged over 60,000 FTU's per month. Original cataloging workloads have diminished. The only criticisms of AMIGOS have been those voiced by other OCLC users and, as such, are not attributable to AMIGOS. Users want faster production and delivery of catalog cards. Better response time and the ability to specify field types (tags) in searching are also desired. About twenty AMIGOS members purchase OCLC archive tapes, but they complain about high cost and slow (three to four week) delivery of the tapes. If possible, AMIGOS would like OCLC to implement authority controls, subject searching, and a circulation control system interface.

III. Plans

AMIGOS intends to implement information retrieval services by providing access to online data bases and by training its members in search techniques. A computer may be installed at network headquarters to offer message-switching among AMIGOS members and between AMIGOS and other data base suppliers. This local computer may also support an online shelflist and a job opening and personnel roster file. G.E. Terminets or similar printers will be attached to OCLC-100 terminals to prepare online hard copy records. Interstate interlibrary loan and acquisitions procedures will be streamlined and aided by expected OCLC features. Records not found in OCLC will be searched in Southwest registers by a yet-to-be-developed technique. AMIGOS intends to explore all cost-effective means of providing more libraries with better services as both an OCLC distributor and as

a complementer and coordinator of other data base suppliers. Expansion into Mexico and Central America is a distant possibility.

BIBLIOGRAPHICAL CENTER FOR RESEARCH,
ROCKY MOUNTAIN REGION, INC. (BCR)

Address:	245 Columbine Street, Suite 212 Denver, Colorado 80206
Telephone:	(303) 388-9261
Individual Interviewed:	Mr. Donald B. Simpson, Executive Director
Date Information Obtained:	June 21, 1976 (revised March 7, 1977)

I. Current Status

A. Organization

BCR is a regional library cooperative with more than seven hundred members and user libraries in the midwestern and western United States. Founded in 1935 as a non-profit corporation to facilitate library resource-sharing in the West, the center's main functions have been providing interlibrary loan (ILL) clearinghouse services and maintaining regional union catalogs, but data base access has recently expanded BCR's scope. In six states with umbrella memberships, every library in the state is recognized by the BCR bylaws as having access to BCR service programs. One of these states, Kansas, has a library using AMIGOS services since the AMIGOS phone line is nearby. In four other states, individual libraries are BCR members and have no statewide affiliation with the center. Non-members in three other states actively use the center's ILL service. Occasional BCR users are located worldwide.

The center is governed by a Board of Trustees consisting of the state librarians of states with umbrella contracts plus four members at-large, each drawn from a major library sector, such as the public, academic, school, and special libraries. The executive director of BCR is responsible to the board for the activities of the sixteen staff members of the center.

B. Services

BCR has three major service programs:

1. INTERLOAN

Using a regional union catalog with 3.5 million titles and approximatly 20 million locations, mostly from the twelve-state, Rocky Mountain region, plus a collection of national bibliographies and OCLC service, BCR locates interlibrary loan requests for its users.

2. METRO

Access to over 80 million citations from the subject-oriented online data bases of the Lockheed Retrieval Service, System Development Corporation, New York Times Information Bank, and Bibliographic Retrieval Services is provided by this BCR service program. METRO staff provide installation, training, demonstration/promotion assistance, technical assistance regarding searching and hardware problems, system use statistics, data base development, and vendor liaison. Both manual and computer-aided literature searches and bibliography preparation are offered for a fee.

3. BIBLIO

BCR provides access to online bibliographic utilities with a variety of computerized library services in cataloging, searching, and other technical services. Initially "brokering" OCLC and BALLOTS services, BCR offers installation, card-set profiling, training, trouble shooting, and vendor liaison. The center also brokers the services of vendors who produce microform and cartridge microfilm book catalogs or similar products.

In addition to the preceding three service areas, BCR offers continuing education programs that emphasize "how-to-do-it" with BCR services and conducts research and demonstration projects involving its members in cooperative grants to experiment in devising better ways to provide library services.

C. Finances

LSCA Title III grant money from the Colorado State Library enabled METRO service start-up. BCR research and development activities are funded by grants for consulting fees; operations are self-supporting. Most revenue comes from the INTERLOAN fees (at least $4.00 per request) plus BCR surcharges on OCLC first time uses (FTU's) and other computer services. Individual and state membership fees represent a smaller portion of the center's

income. In exchange for a discount on certain BCR services, the Denver Public Library provides office space to BCR.

II. Experiences and Results

During the first nine months of 1976, BCR's INTERLOAN staff processed more than 7,000 requests and added 90,000 titles and 300,000 new locations to the regional union card catalog. Of the 1.5 million cards in temporary storage, 370,000 were taken out and alphabetized for the catalog, but a simpler, more accessible form of catalog is desired.

OCLC began logging BCR FTU's in April 1976. By February 1977, BCR documentation listed fifty-six BIBLIO (i.e., OCLC) participants in five states using sixty-seven OCLC-100 terminals on three multidrop telephone lines from Columbus, Ohio. OCLC installation and training are said to have been smoother for BCR than for networks linking to Columbus during OCLC's earlier developmental period. Forty terminals give BCR users access to METRO data bases.

BCR is awaiting a superior slave printer for OCLC terminals before offering its members local book pocket and label printing capabilities. The standing search of no-hits available in BALLOTS is desired in OCLC. Online authority files are desired in all bibliographic utilities. OCLC's and other utilities' standards are enforced to some extent by BCR. The center retains a computer consultant for special projects rather than maintaining an in-house technical staff.

BCR members may forfeit some autonomy in joining the center, but the expected cost benefits obtained by the economy of scale of cooperative activities are said to offset the dependency upon BCR and its utilities. The center is currently working to "change its image" from that of a well-established ILL clearinghouse to that of a full-service bibliographic supplier and network operations center. By "keeping its promises," BCR hopes to "avoid gripes" and expand its services.

III. Plans

BCR plans to make available an Integrated Library System using a single terminal in a user's library connected via an inexpensive communications link to a BCR computer and communications device to give access to a wide spectrum of nationwide computerized library services. If library utilities do not make online authority files available, BCR may do so using a yet-to-be selected minicomputer. This machine is

expected to perform the following functions: (1) support a file of regional holdings for data in OCLC, BALLOTS, etc.; (2) send messages to users at log-on-time; and (3) support a statistical package. For cataloging data searched, a no-hit in OCLC, for example, may be automatically searched in BALLOTS and other online files without intervention by the terminal operator.

The center views network development as coming from the bottom-up as well as from the top-down.

BCR seeks expertise from other organizations (LC, OCLC, SOLINET, etc.) in converting its union catalog to machine-readable and, possibly, online form.

BOSTON PUBLIC LIBRARY (BPL)

Address:	Copley Square 666 Boylston Street Boston, Massachusetts 02177
Telephone:	(617) 536-5400
Individuals Interviewed:	Mr. Liam M. Kelly, Assistant Director Mr. Gunars Rutkovskis, Assistant Director Ms. Rosalie A. Lang, Supervisor of the General Library Mr. Edward C. Fremd, Coordinator of Resources
Date Information Obtained:	April 14, 1976 (revised March 15, 1977)

I. Current Status

A. Organization

The Boston Public Library is a department of Boston's city government. The library director reports to a Board of Trustees. Assistant directors are responsible for the Research Library, the General Library, the Eastern Massachusetts Regional Library System (EMRLS), Data Processing, Business and Personnel, and Buildings and Operations. Twenty-six branches report through three branch coordinators to the General Library; one other branch (the Kirstein Business Branch) is part of the Research Library. This organization accommodates 605 budgeted positions, presently staffed by 560 full-time and 90 part-time employees.

Primary users of BPL are residents of metropolitan Boston; secondary users include all Massachusetts citizens. Free borrowing privileges are extended to all state residents. Anyone may visit BPL, but only Massachuetts residents may borrow its materials.

BPL is the library for the Eastern Region which comprises 186 towns in Eastern Massachusetts and, in addition, headquarters and reference library of last recourse. Besides having membership in the Center for Research Libraries in Chicago, BPL

is one of ten members of a resource-sharing organization known as the Boston Library Consortium.

B. Services

BPL offers ready reference service in response to in-person, telephone, mail, telegram, teletype, and TWX inquiries, as well as assistance in the use of the public catalog, reference works, and audiovisual equipment. A computer-produced accessions list containing title, author, and call number is made available for the General Library, but not for all branches. In addition to containing guides to the Library and many public relations documents, BPL's current publications list of nearly sixty items includes reprints, topical bibliographies, booklists, prints, posters, essays, and catalogs of special collections. Annotated reading lists are prepared in conjunction with the NOVA television program.

BPL will issue mail, teletype, or TWX interlibrary loan (ILL) requests for its patrons whenever needed, using the National Union Catalog, Register of Additional Locations, plus a regional union list of serials for locations. As an NUC/RAL contributor, but not an OCLC user, BPL's holdings are known nationwide, so it is contacted through many channels by ILL borrowers. EMRLS operates a truck delivery service for members.

The library produces a weekly selection list from Baker & Taylor Company computer tapes. This list is sent to BPL branches and EMRLS members. BPL does the ordering, billing, and claiming of monographs and some serials for certain EMRLS members under a cost reimbursable agreement with the state. BPL also does the keying of records for the nine Boston-area members of the Boston Library Consortium for the BLC union list of serials. The University of Massachusetts, Amherst, keys its own records, maintains the machine-readable file, and prepares union serials listings for members of the consortium.

BPL's own official catalog for its branches and Research Library provides bibliographic access to over 3,863,000 volumes and 1,285,000 microforms. Special collections include the library of President John Adams, many rare books and manuscripts, the Allen A. Brown Music Library, and other topical, historical, and area collections.

The library offers lectures, concerts, exhibits, and a variety of special programs. Special services are offered for children, young adults, senior citizens, the blind, and the

handicapped. Branch services are tailored to meet the needs of local communities. Registration processes and borrowers' cards, for example, were made bilingual.

C. Finances

Approximately 90% of BPL's operating budget comes from the City of Boston; 9% from the state for EMRLS reimbursements; and 1% from endowments. In addition, special grants have been awarded to BPL. Recent grant-supported projects include production of a large-print catalog, development of a three-year learning library, and microfilming of Boston-area newspapers. There are no fees for on-going BPL services.

II. Experiences and Results

BPL functions as both a research library and a large public library and shares clientele with the academic libraries in the area. Public library users require less ILL from BPL than academic users. (BPL sends only ten ILL requests per week to out-of-state libraries.) The branch and general libraries require current, popular works; the academic users may seek more specialized materials. BPL's demands for LC precedent cataloging, therefore, indicate a need for both broad scope and speed. Selection from MARC tapes is not done because of the "slowness" of LC cataloging. Recent MARC records and BPL holdings are stored online for the library by Inforonics, Inc. For audiovisual materials, BPL prepares temporary cataloging for use until LC cataloging arrives. LC cataloging is found for about 80% of BPL's domestic acquisitions on first search. BPL does original cataloging for about 100 high-priority books weekly. In addition to its own name and series authority files, BPL uses its official catalog plus the NUC and LC depository file as authorities.

Perhaps the most significant event in BPL's recent history was the opening of a new $24 million addition to the Central Library. Noteworthy is the fact that the construction firm kept costs below the original contract price. Expanded community services have been offered through BPL's branches. Its East Boston Branch is the oldest branch library in the United States.

In 1971 BPL was designated the Regional Depository Library for U.S. and U.N. documents in Massachusetts. The U.S. document responsibility was formerly held by the State Library. As a museum and a research library and archive, BPL continues to receive rare works from its region.

III. Plans

BPL intends to develop a capability to prepare its own machine-readable records for which no MARC records exist. Combined with holdings and MARC records, this will give the library a full, machine-readable union catalog. As an interim measure, a filmed and printed catalog has been produced.

BOSTON UNIVERSITY - MUGAR MEMORIAL LIBRARY

Address:	771 Commonwealth Avenue Boston, Massachusetts 02215
Telephone:	(617) 353-3708
Individuals Interviewed:	Mr. John Laucus, Director Mr. Karl S. Bynoe, Associate Director for Reader Services Mrs. Dorothy P. Ladd, Associate Director for Technical Services
Date Information Obtained:	April 7, 1976 (revised May 24, 1977)

I. Current Status

A. Organization

The Director of Mugar Library reports directly to BU's Vice-President for Administration. Directors of the Law and Theology Libraries report to the administrators in their respective schools, who in turn report to the Academic Vice-President. The Director of the Medical Center Library reports to the Dean of the School of Medicine, who reports to the Academic Vice-President, Medical Affairs.

BU belongs to the New England Library Information Network (NELINET), Boston Library Consortium (BLC), and Boston Theological Institute, in addition to informal groups. It also has a reciprocal arrangement with Hebrew College whereby faculty and students at each institution may use and borrow from the other's libraries.

Organizational membership is maintained in the American Library Association, the Association of Research Libraries (ARL), and the New England Library Association.

B. Services

BU answers in-person, telephone, and mailed reference questions, assists in the use of its catalogs, reference works,

and audiovisual equipment, and aids in preparing bibliographies. Graduate students and faculty may request interlibrary loan (ILL) in person, by phone, or by mail, but BU requires a mail follow-up to telephoned ILL requests. Mugar staff determine likely ILL sources by using the National Union Catalog (NUC), the Register of Additional Locations (RAL), the Ohio College Library Center's data base, and the BLC's union list of serials.

Service offered to other libraries include ready reference aid to patrons and staff from other libraries, ILL, and access to BU cataloging via the Boston Library Consortium, the National Program for Acquisitions and Cataloging (NPAC), NUC, OCLC, and bookform catalogs sold by G.K. Hall. Except for music scores and recordings, a single 1.1 million-record union catalog accounts for the holdings of all BU libraries. An LC classed catalog was maintained until 1972. Since then, an alphabetically arranged subject cat[illegible]as been used. These two files complement a name/titl[illegible] where the name may be an author or subject.

Besi[illegible] a general library guide for assisting users and brief librar[illegible]ientation courses, Mugar issues an Information Bulletin wit[illegible] detailed user aids. Recent bulletins include: "Catalog Department, Indexes--Abstract Reference, Audio, African Studies Library, Microforms Room and Serials." BU's African Studies Library and African Studies Center cooperate to produce the Africana Libraries Newsletter irregularly for international distribution. The Index to the Classed Catalog of the Boston University Libraries has been for sale by G.K. Hall since 1972.

C. Finances

The operating budget for Mugar and other BU libraries is a line item in the university budget. A recent grant from the U.S. Department of Health, Education, and Welfare has enabled Mugar to purchase certain Latin American publications. Other minor revenue sources include gifts and photocopy fees.

II. Experiences and Results

As an ARL member with a depository card set, BU uses its LC cards arranged by class number for ordering and incidental cataloging. LC cards may be ordered by card number or main entry and title on those occasions when a Cataloging in Publication announcement precedes BU's NPAC report for a title.

When seeking ILL locations, BU first checks the Boston Library Consortium (since BLC's truck service is free of postage

charges), then NUC, OCLC, and RAL in that order. Some libraries routinely send all requests for educational materials to Mugar.

As an OCLC user via NELINET membership, BU checks many acquisitions and ILL requests against the OCLC data base for verification and location. The Library would like OCLC's cataloging service improved before serials check-in, acquisitions, and other new features are implemented. Problems with slowness of response and lack of authority control arise continually, but the benefits of online shared cataloging outweigh the aggravations. The closing of Mugar's classed catalog nearly coincided with the opening of its closed stacks and the initiation of OCLC service. Although BU library book budgets have fallen steadily since 1970, its total budget and its circulation have risen steadily. Mugar alone loaned 263,000 items in 1970/71; 323,000 in 1974/75.

BU views on-site access to materials in Boston-area libraries as being more valuable than ILL. BLC member library collections are strong and have significant overlap. These factors influence BU's preference for local access. Geographic distances between libraries and infrequent meetings tend to inhibit network planning and cooperation. The benefits of resource-sharing, however, justify library cooperatives for BU.

III. Plans

G.K. Hall has published a catalog of BU's African Documents Collection. Greater resource-sharing is anticipated, and a need exists for serials control and circulation control system improvements--perhaps using OCLC or other library automation services. Automated circulation control is a more remote possiblity than an improved method of serials check-in.

CLEVELAND PUBLIC LIBRARY (CPL)

Address:	325 Superior Avenue Cleveland, Ohio 44114
Telephone:	(216) 623-2800
Individuals Interviewed:	Miss Marian Huttner, Special Assistant to the Director Mrs. Aubree Brandow, Director of Technical Services
Date Information Obtained:	June 25, 1976 (revised March 11, 1977)

I. Current Status

A. Organization

The Cleveland Public Library is an independent unit, nominally administered by the Cleveland Board of Education. The Library Director reports to a Board of Library Trustees consisting of seven Cuyahoga County residents (the majority are from Cleveland) appointed by the Cleveland Board of Education. The major CPL departments are the Main Library, Community Services, Finance and Administrative Services, Technical Services, and Personnel Services. Total staff size numbers about 650.

CPL serves the 700,000 residents of the City of Cleveland, although all of Northeastern Ohio regularly uses its services, and free circulation privileges are given to anyone living, working, or attending school in Cuyahoga County. The Cuyahoga County Public Library, also based in Cleveland, serves the suburbs. Approximately 1.6 million people reside in the county.

Although maintaining memberships in existing and evolving Cleveland-area cooperatives and the Ohio College Library Center (OCLC), CPL is postponing membership in the Midwest Region Library Network until the latter's benefits are more tangible.

B. Services

The Cleveland Public Library contains over 3 million books, 36,000 recordings, 5,886 current periodical titles, and 3,500 films.

Fourteen public service departments, most of which are staffed by subject specialists, operate from the Main Library. An Environmental Resources Center (ERC) serves as an information center for business, industry, and schools and also assists in coordinating community efforts to reconcile environmental and economic concerns. ERC and the world's largest collection of materials relating to chess and checkers are at the Main Library. Other special collections include: architecture (Schweinfurth), Cleveland authors, folklore-orientalia, Jewish books, and many more. Thirty-nine foreign languages are covered by the Main Library's Foreign Literature Department. Over 3,000 of CPL's 25,500 titles acquired annually are non-English. Nearly 50,000 telephone queries are handled annually by the Business Information Department. All U.S. patents plus abstracts of many foreign patents are kept in the Main Library. A Public Administration Library is maintained at the City Hall.

Outreach services include three bookmobiles, school services (including CPL loans to adult education centers), hospital, health center, and correctional institution services, traveling book service to home-bound shut-ins, and a braille and talking book department. Urban services programs are designed to meet the special needs and interests of inner-city Spanish American, Appalachian, and Black communities.

Rock concerts, craft lessons, and presentations on yoga, soul food, home laundry techniques, the stock market, and scores of other topics (along with traditional library services) are offered by thirty-five branches and three sub-branches. Each is designated a "Neighborhood Information Center" offering on-site consumer services and voter registration. Special children's and senior citizens' programs have been operational at CPL for decades.

Reference services are backed up by CPL's participation in the Cleveland Area Interlibrary Network (CAIN). QWIP-1000 telecopiers link CAIN members, and a United Parcel Service courier delivers materials daily among the academic and public library participants.

"Facts for a Fee" offers patrons librarian-conducted searches of all Lockheed data bases on a terminal at CPL. The New York Times online service is also available.

C. Finances

Most funding is provided by a Cuyahoga County intangible personal property tax. A special five-year tax levy on Cleveland real estate supplements the county tax. LSCA money pays for the CAIN delivery service. State and LSCA funds also support library services to the blind. The George Gund Foundation established the ERC. Elecompack shelving for certain special collections was purchased by the Friends of the Library. The Judd Fund supports much of CPL's service to shut-ins. "Facts for a Fee" charges start with a minimum of $25, plus a per hour charge. CPL's terminal was obtained with National Science Foundation support. There is no CPL charge for ILL service, but the patron must pay for mailing costs. Donors, fines, and investment income account for most other income.

II. Experiences and Results

CPL grew from a third floor walk-up with 5,800 books in 1869 to its present size. The Library has over 226,000 registered borrowers and an $11 million yearly budget. Circulation statistics for 1974 are as follows:

	Thousands of Items Loaned
Main Library	663
Branches	1,643
Urban Services	20
Outreach Service	951
School Libraries	343
Loans to Other Libraries	7
Total	3,627

The Main Library alone handles over 1,000 telephone questions daily and accommodates an average of 3,000 daily visitors.

"To compensate in part for the relatively small number of popular new titles supplied by the Library of Congress" for the Braille and Talking Book Department, CPL staff and volunteers produced cassettes for titles of current and local interest. A minicomputer-based "as-read file" of patron use is now being tested in this department. CPL was one of CLSI's first computerized acquisition system customers.

Before the city tax levy was passed, many services were curtailed, and inadequate facilities and salaries damaged the morale of current staff members and discouraged prospective ones.

Deteriorating physical plants and concern for personal safety had a telling effect on staff and patrons. Because CPL was undermanned and experiencing a 500% rate of turnover in the branches, in-service training, job enrichment, and other new programs were instituted to slow the attrition rate.

Use of LC classification for all titles (new and duplicates) acquired since April 1975 and OCLC membership are enabling CPL to participate more effectively in shared cataloging. All records found in OCLC searches are printed out on EDT-1200 slave printers attached to CPL's three OCLC terminals to facilitate changing subject headings. ILL staff use the OCLC terminals in the cataloging department. In spite of down-time and slow response, CPL experienced a reduction in original cataloging due to OCLC, allowing resources to be redirected to improve operations. The Library Council of Greater Cleveland with LSCA Title III support is developing a library network which is aimed at more complete resource-sharing, and CPL expects to play a major role in the council.

III. Plans

CPL's first task is to improve the physical facilities at its branches. Technical services workflow is being streamlined. Wasteful or inefficient procedures in all areas of the library will be eliminated. By continuing to exchange staff members with other libraries, CPL will speed its systems and procedures changes. Automated circulation control is imminent. An LSCA-funded retrospective conversion of all English non-fiction cataloging in Ohio's seven largest public libraries will include CPL's participation via OCLC input.

CONCORD FREE PUBLIC LIBRARY

Address:	129 Main Street Concord, Massachusetts 01742
Telephone:	(617) 369-5324
Individuals Interviewed:	Mrs. Rose Marie Mitten, Director Mrs. Carol Taylor, Technical Services Librarian
Date Information Obtained:	April 8, 1976

I. Current Status

A. Organization

The Concord Free Public Library Corporation is a private corporation which owns the library's physical plant and manages the many trust funds and legacies donated since 1873. Library staff are municipal employees of the Town of Concord and the Library Director reports to the town's Library Committee. Committee members were elected by town voters until 1956 when a new form of town government began. Since 1956 the seven members have been appointed to three-year terms by the town's elected Selectmen. Including the West Concord Branch, the staff numbers forty-two, twenty-one of whom are full-time employees.

Free borrowing privileges are extended to anyone who lives, owns property, works, or attends school in Concord. Others may obtain a non-resident borrower's card for $15.00. No one is excluded from using the library.

The library is one of twenty-five members of the Wellesley Subregion of the two hundred-member Eastern Massachusetts Regional Library System. EMRLS is a state-supported voluntary association of public libraries divided into eight subregions and offering primarily interlibrary loan (ILL) services to its members.

B. Services

The library offers ready-reference service in response to in-person, telephone, and written inquiries, as well as assistance in the use of the public catalog, reference works, and audiovisual equipment. Bibliographies may be compiled by the staff for special occasions, and an informal, unmechanized selective dissemination of information (SDI) service is also operated. Concord does not have the National Union Catalog (NUC) or the Register of Additional Locations (RAL) because of their relatively high cost, although the staff uses LC proof sheets for cataloging. ILL locations for monographs, therefore, are obtained for patrons by telephone, mail, or courier service to EMRLS-Wellesley. A union list of serials for the subregion is printed by Wellesley headquarters and distributed to all members. Through EMRLS, Concord residents have ILL access to all U.S. libraries.

Special collections deal with local history and genealogy and Concord authors--including Emerson, Thoreau, Hawthorne, and the Alcotts. Special files deal with prisons (a Massachusetts Correctional Institution is located in Concord), community information, and environmental resources. The library is also a museum and art gallery containing artifacts of historical significance.

C. Finances

Over 80% of the budget is a special appropriation from town taxes. Roughly 15% comes from the Concord Free Public Library Corporation, but this amount varies with the library's needs and the investment and endowment income of the corporation. Other minor sources of income include state funds, an archival restoration grant, non-resident user charges, reproduction licenses granting permission to copy unique, library-owned material for use in the commercial market, plus overdue fines and photocopy fees.

II. Experiences and Results

The oldest circulating library in America was created by a committee of Concord citizens in 1672. A "library company" with a formal constitution existed by 1786. In 1795 the Charitable Library Society began. Its 1808 catalog contained 250 volumes. From this grew the Social Library in 1821 owned by its shareholders. In 1851 the Town Library (which then had 1,319 volumes) was formed by combining the Social Library with a parish and an agricultural library. The gift of a local business man, William Munroe, made possible the construction of the first phase of the present building in 1873. Ralph Waldo Emerson, senior

member of the Town Committee and active library committee member from 1853 to 1882, spoke at the library dedication ceremony in 1873.

The library grew to serve a town of 18,000 and acquired a collection of 175,000 volumes. Over 15,000 borrowers accounted for a circulation of 280,130 items in 1975. Juvenile circulation fell for the past several years reflecting a declining number of children in the town; the adult population and the circulation of adult books have been increasing.

The Bicentennial celebration archives are housed at the Concord Free Public Library.

With some assistance from a local management consultant, the library has redrawn its statement of purpose or mission, improved its public relations effort, and employed a cost/benefit technique to improve its operations.

Concord began buying the English-only cut and punched proof sheets from LC in July 1975. This service excludes music cataloging--a feature which Concord desired, but without the superfluous (to them) foreign material. The slips are used for cataloging rather than for selection, and the staff weeds each batch--keeping only titles which the library might purchase. Pre-cataloging search of the resulting file yields a 35% hit rate on first search. When a book arrives, its order slip bearing a Dewey call number is filed by main entry in the public catalog. The Book Publishing Record is used as a back-up for original cataloging done at year's end. There is no cataloging backlog.

The library uses the eighth edition of Library of Congress Subject Headings but has no authority file. The NUC is used as a name authority for music cataloging. Because of lack of use, their subscription to Name Headings with References was dropped. LC subject cataloging is especially valuable to Concord.

By joining EMRLS, Concord has experienced an "enormous broadening of resources and a feeling of belonging." Such regional ILL and resource-sharing enabled Concord to improve services offered to its patrons. Expansion of EMRLS to a multitype cooperative is desired.

III. Plans

Cost, though important, does not dominate planning. The expectation of improved patron service is critical. Concord plans to make user-oriented improvements in its card catalog,

particularly in methods of subject access. "Gun Control," for example, should direct patrons to works cataloged as "Firearms." Audiovisual or other catalog user guides are desired. Wellesley Subregion-wide borrower privileges will soon be in effect.

COOPERATIVE COLLEGE LIBRARY CENTER (CCLC)

Address:	159 Forrest Avenue, NE Suite 602 Atlanta, Georgia 30308
Telephone:	(404) 659-6886
Individual Interviewed:	Mr. Hillis Davis, Director
Date Information Obtained:	June 15, 1976 (revised March 22, 1977)

I. Current Status

A. Organization

CCLC is a book processing center serving approximately thirty developing colleges in a ten-state area of the South, from Virginia to Texas. The center is a non-profit, tax-exempt corporation of Georgia, staffed by ten people, and governed by its Board of Trustees which consists primarily of the president of each member college and CCLC's director as an ex-officio board member. Membership is open to other colleges, regardless of the racial characteristics of their students, but CCLC services are now focused on small, liberal arts colleges.

B. Services

CCLC's services include: (1) batch book ordering and discount negotiation, with rush orders receiving bibliographic verification via two OCLC-100 terminals at CCLC's Atlanta headquarters; (2) book check-in and invoice inspection; (3) cataloging (without local authority files) and OCLC file maintenance; (4) card-set production and mailing to individual members, which is done by OCLC in Columbus, Ohio, with card-set specifications ("profiles") established by CCLC; (5) book processing consisting of accession stamping and preparation and attachment of book pockets, cards, and selin labels; and (6) interlibrary loan (ILL) location assistance.

In Atlanta, a union card catalog of CCLC-processed member holdings identifying specific collections within each college is used to supply call numbers and locations to potential borrowers. This file consists of approximately 200,000 OCLC shelflist cards filed alphabetically by title plus a microfiche copy of the shelflists of the center's six original members. CCLC maintains the shelflist card file, recording copy information in a grid on the verso of each card, since their OCLC records do not show copy numbers which are required for labeling. Books not processed by CCLC (less than 20% of members' acquisitions) are not in CCLC's card file. Since member holdings appeared in the OCLC data base, interlibrary loans to non-CCLC organizations have tripled.

C. Finances

Financial support from the Carnegie Foundation now supplements the $2.25/volume fee which CCLC charges for ordering and processing. OCLC card costs are passed to member libraries without added CCLC overhead. A one-time U.S. Office of Education grant provided CCLC with its two OCLC terminals. Grants for the purchase of books have been received by member libraries every year since the center began in 1969.

II. Experiences and Results

To provide services with an economy of scale, member libraries agreed (after considerable discussion) upon standards for multipart order forms, purchase orders, and OCLC catalog card formats. The center neither has nor anticipates having an automated acquisitions and accounting system. Approximately 85% of the books are processed within two weeks after arriving at CCLC. One member reports that they receive most processed books six to eight weeks after sending orders to CCLC. Studies have shown that processing costs and book prices paid to the center are less than what would be paid by individual libraries operating independently. Collective action seems most beneficial for CCLC members who send over 80% of their orders through the center and acquire fewer than 10,000 titles per year--most of which have LC precedent cataloging. Increased purchasing power and decreased demands upon technical service staff are viewed as major benefits of CCLC. Its most difficult task has been getting its members to cooperate and accept standards.

III. Plans

A G.E. Terminet or similar printer will soon be attached to the OCLC-100 terminals for printing spine labels. Certain card file information will be keyed into OCLC, and holdings

information will be edited. Use of CCLC will be increased by improving services and maintaining existing costs, making the center's services more attractive to present and future members. More book purchasing and operating grants will be sought. OCLC technology will be applied wherever it appears to be cost effective. CCLC's ILL services will be improved, beginning with a bibliography of its members' Black materials and extending to installation of TWX or ILL terminals in member libraries. The center may operate a warehouse for infrequently used materials.

FIVE ASSOCIATED UNIVERSITY LIBRARIES (FAUL)

Address:	757 Ostrom Avenue Syracuse, New York 13210
Telephone:	(315) 423-3021
Individual Interviewed:	Mr. John W. Aubrey, Coordinator of Library Systems
Da e Information Obtained:	July 1, 1976 (revised March 11, 1977)

I. Current Status

A. Organization

FAUL is a private, independent, non-profit, educational corporation which began in 1967 and is chartered as an "association" in New York. Membership consists of the five institutions with the largest university libraries in central and western New York, namely: the State University of New York, Binghamton; the State University of New York, Buffalo; Cornell University; the University of Rochester; and Syracuse University. The association is governed by a Board of Directors composed of the chief academic officers of the universities. The library directors and academic vice-presidents or provosts on the board have established task forces or committees to deal with important issues such as collection development, public services, and technical services. They have also appointed a coordinator and assistant who staff the FAUL headquarters office at Syracuse. New association members may be accepted by the board.

Several library planning groups besides FAUL are active in New York State: the State University of New York (SUNY); twenty-one public library systems; nine reference, research, and resources (3 R's) groups consisting of academic and public libraries; and other library planning, educational, and operational organizations. All five FAUL members are also members of the 3R groups; two FAUL members are also in SUNY (an OCLC supplier and state academic library system). FAUL members are active supporters and users of the New York State Education Department's interlibrary loan system (NYSILL); four FAUL members

belong to the Association of Research Libraries; the University of Rochester contracts for services from the Northwest Academic Science Information Center; and FAUL members use the Journal Access Service as members of the Center for Research Libraries. Members of FAUL also participate in a wide variety of other library organizations and activities; they contribute to the National Union Catalog and the CONSER (Conversion of Serials) project and have institutional memberships in professional societies and cooperatives.

B. Services

FAUL coordinates the activities of its five autonomous member libraries. Rather than operating as a library or data service supplier, FAUL helps the five libraries work together by assisting them in the planning and development of coordinated acquisitions, shared resources, compatible computer and communications sytems, joint research programs, and other cooperative activities. FAUL presents alternatives, fosters joint decisions when needed, and only rarely acts as an operational unit.

The FAUL office is responsible for handling the association's OCLC contract whereby twenty-four terminals on a single multidrop leased line are made available to seven participating libraries. There is no OCLC terminal in the FAUL office. Equipment and systems problems and questions about cataloging are handled by OCLC's toll-free WATS line to Columbus, but general contracted-level problems and complaints are handled by FAUL.

FAUL publications include: Major Microforms in the Five Associated University Libraries: A Reference Guide and Union List and Comparative Shelflist Measurement for FAUL Libraries.

C. Finances

The total cost of administering FAUL is evenly divided among the members. Each pays its share as an annual membership fee. There is no surcharge on OCLC services for FAUL members. Some minor revenue is generated from sales of FAUL publications. For group fringe benefits, FAUL staff are considered to be Syracuse University employees. The association pays Syracuse University for rental of office facilities.

II. Experiences and Results

FAUL's OCLC implementation provided the members with online shared cataloging--a major milestone. Members focused on technical services work flow improvements before OCLC terminals were installed. Early delays in the delivery of terminals "strained the patience" of many staff members, as have recurring problems of slow response time and non-uniform cataloging quality, but FAUL is favorably impressed with OCLC and maintains a close relationship with it. FAUL members logged an average of over 11,000 first time uses (FTU's) per month in the first half of 1976. A "blacklist" of OCLC contributors whose cataloging is unacceptable to certain FAUL participants is one solution to the cataloging quality problem. FAUL is discussing the desirability of a separate online authority file for OCLC versus allowing that catalog (perhaps in a somewhat modified form) to serve as its own authority. Cornell University is a CONSER participant, whose online serials cataloging is funded in part by a grant from FAUL.

FAUL has held numerous meetings in the 1973-76 period: the annual presidents' meetings, a variety of directors' and business meetings, and sessions with the CONSER project staff, the FAUL Standing Committees (Technical Services, User Services, and Collection Development), the Rules and Precedents Subcommittee composed of catalogers concerned with OCLC, interlibrary loan librarians, serials librarians, and government documents librarians. Such functional and task force assemblies have served to unite the members. FAUL participation in other organizations such as OCLC's Board of Trustees, the Council for Computerized Library Networks, the Northwest Academic Science Information Center, the Center for Research Libraries (CRL), and other national groups involve the association in New York State and national planning.

As a coordinating rather than a controlling association, FAUL permits each member to keep its autonomy. After several years of joint planning and OCLC participation, members have come to "know and trust each other"--a "cooperative spirit" exists. Executive and staff turnover in member institutions, however, weakens a personality-dependent union.

III. Plans

The use of the OCLC serials modules by FAUL is imminent. As bibliographic access improves, the problem of physical access becomes more focused. NYSILL and CRL activities will be scrutinized, and FAUL will continue to plan cooperative storage and better association-wide delivery procedures.

FAUL expects to continue as a planning and coordinating group, not an operating organization, although its members are operating libraries. Selections officers will meet to plan coordinated acquisitions. Other groups will meet to plan resource-sharing. Technology developed by OCLC and other data base vendors, e.g., System Development Corporation, Lockheed, New York Times Information Bank, etc., will be employed by FAUL if cost effective. Continuing education and professional development are of growing concern in FAUL.

ILLINOIS LIBRARY AND INFORMATION NETWORK (ILLINET)
OR
ILLINET BIBLIOGRAPHIC DATA BASE SERVICE

Address:	Illinois State Library Centennial Building Springfield, Illinois 62756
Telephone:	(217) 782-3553
Individual Interviewed:	Mr. Hugh T. Vrooman, Manager, Systems Analysis and Management Services, and ILLINET Bibliographic Data Base Service
Date Information Obtained:	June 22, 1976 (revised March 14, 1977)

I. Current Status

A. Organization

ILLINET is a statewide, multitype library network composed of public, academic, special, and school libraries and special resource centers. The Illinois Library System Act of 1965 divided the state into eighteen regions and designated the State Librarian as administrator of these eighteen "systems" of public libraries. Each system is governed by a board of directors numbering between five and fifteen persons selected from the governing boards of participating libraries. Most Illinois public libraries are members of systems, though membership is voluntary, and new members must be approved by the local system's governing board and the State Librarian. Non-public libraries, i.e., academic, special, and school libraries are called "affiliates" of the systems if they sign an agreement to cooperate with the Illinois State Library (ISL) or a library system. In a few systems, affiliates serve as ex-officio, non-voting board members.

The Library System Act specifies four libraries (Chicago Public, the University of Illinois at Champaign/Urbana, Southern Illinois University at Carbondale, and the Illinois State Library) as "Research and Reference Centers" to furnish back-up

interlibrary loan (ILL) and reference service to the eighteen systems and affiliates. These four centers are reimbursed with state and LSCA funds for services provided to the systems. The 1965 Act also enabled the State Librarian to designate the John Crerar Library and the University of Chicago Library as "Special Resource Centers" of last resort.

The ILLINET Bibliographic Data Base Service, managed by a three-person systems staff at the State Library, provides access to computerized data bases for Illinois libraries. Advisory committees dealing with systems policy, library automation, and other matters assist the ISL director, who manages the ILLINET systems staff and in turn reports to the State Librarian, who is also the Secretary of State and responsible to the Legislature.

B. Services

ISL's main function is to offer library services to all state offices, but it is also directed by Illinois law: (1) to promote and develop library services statewide; (2) to administer state and federal library grants; (3) to plan and support library education and research; and (4) to collect and publish library statistics. The systems staff provides OCLC service to seventy-four Illinois libraries, offers OCLC terminals at a discount price, assists in establishing telephone links to OCLC, and runs a training program dealing with OCLC, Anglo-American Cataloging Rules, International Standard Bibliographic Description, and other current library technology.

Each of the eighteen systems in ILLINET has a union list of holdings for its members upon which an ILL locating service is based. Other tools at each system headquarters office include microform copies of the Illinois Microfilm Automated Catalog and acquisitions lists, and the University of Illinois' card catalog and union list of serials. Most systems have teletypes to facilitate ILL borrowing. Reciprocal borrowing is available within a system to patrons with valid borrower's cards so they may bypass ILL procedures within their geographic region (system). Public libraries can access all ILLINET services, while affiliates can use ILL and some reference service from ILLINET plus other services which may be provided by the systems.

ILLINET is a hierarchical network with four service levels: (1) local public, academic, special, and school libraries are at the lowest level; (2) eighteen library systems serve as back-up to the local libraries; (3) four research and reference (R & R) centers provide back-up to the systems; and (4) two special resource centers are the last Illinois back-up sources of ILL and

reference service. Requests originating at a local level are selectively "filtered" up the hierarchy.

Research and reference centers (one of which is ISL) provide the following services through ILLINET: (1) access to over 14 million volumes; (2) ILL for books, government documents, and maps; (3) periodicals photocopying (first ten pages without charge, first twenty-five pages free at ISL); (4) verification and searching of special indexes; (5) priority handling of requests before non-network libraries; (6) information requests; (7) bibliographic location for titles not available in ILLINET; (8) referral to John Crerar or the University of Chicago; and (9) direct access to research and reference centers under special circumstances. Because of its microform catalog, ISL receives more requests than the other three R & R centers.

OCLC service is not hierarchical, but information taken from the terminals enters this hierarchical flow. ISL has installed ninety-four OCLC terminals in sixty-seven academic libraries, one public, and ten special libraries. As part of the state government, ISL is permitted to serve profit-making special libraries; only state employees, however, have direct borrowing privileges at ISL. ISL conducts OCLC liaison, trouble shooting, and contract negotiations on behalf of the seventy-eight ILLINET participants. One Illinois institution (the Center for Research Libraries) has an OCLC contract independent of ILLINET. Three ILLINET libraries are using the Stanford BALLOTS system; these include a public library, a pharmaceutical library, and a research library in the U.S. Energy and Research Development Administration.

Besides its many library research and planning studies, ISL publishes a monthly journal Illinois Libraries, a semimonthly newsletter Illinois Nodes, a catalog of state publications, and a variety of training and informational documents for ILLINET and other users.

C. Finances

ISL, as part of the Illinois State Government, absorbs all the administrative expenses of ILLINET; therefore, no surcharge is added to OCLC costs. The eighteen library systems are funded by state grants-in-aid based on the formula: 70¢ per person in the area served by the system plus 25¢ per square mile of the system's territory. The R & R centers are funded by appropriations from the Illinois General Assembly--each receiving a basic $40,000 grant for staff and materials, plus a fee per request searched ($1.10-$1.35) and per item sent ($2.20). LSCA

money has also been used to support the research and reference activities of ILLINET and to produce and distribute certain microfilm catalogs and shelflists for use as ILL tools. State and federal money supports Illinois's Project PLUS, providing library service where none exist.

II. Experiences and Results

In 1973 and 1974, the Library Financing Subcommittee of the Illinois House Revenue Committee held hearings at which numerous witnesses noted that the eighteen ILLINET library systems "provided them with services which local libraries could not provide on their own."

The total number of requests received by the R & R and special resource centers during 1974-75 was 196,869. Most of these requests (36%) went to ISL. The University of Illinois received 28%; Southern Illinois University at Carbondale received 15%; and Chicago Public, 20%. The total number includes referrals among centers. Between 85-90% of the requests are filled by library systems. R & R centers fill between 50-60% of the requests received. Most unfilled requests were author/title requests not owned by the R & R centers.

Since beginning its OCLC operation in 1974, ILLINET activity has increased to over 13,000 first time uses (FTU's) per month. The growing demands placed on OCLC by ILLINET and other users have resulted in slow response time and delayed initiation of new services. ILLINET staff expects that OCLC or another utility may offer indices to other data bases and that regional or state bibliographic data base utilities will arise as part of a distributed network.

ILLINET is unlike several other library cooperatives since (1) its eighteen library systems were created by law, and (2) its OCLC broker is part of the state government. This has led to a more orderly development of cooperative activities within the state. A chronicle of ILLINET growth is contained in recent issues of Illinois Libraries. A few libraries feared government insensitivity to their individual needs, but ILLINET is a "political organization" in which members are free to express demands.

III. Plans

ISL expects to have eighty OCLC terminals in sixty Illinois institutions by 1977 and 125 terminals in seventy-five institutions by 1978. Computer-output-microfilm (COM) data from

the Baker and Taylor BATAB system will be used on the Illinois Secretary of State's Honeywell 6080 computer as input to commercially supplied (e.g., CLSI) library minicomputer systems in the State Library. Remote dial-up access to other systems in Illinois is also planned. ILLINET expects to be able to offer microfiche book catalog production service to its users. Retrospective processing of OCLC archive tapes will be a major input for the fiche catalogs.

Illinois and other state governments working with AT&T may develop a computerized telecommunications network for state use, costing as little as two-thirds of the private rate.

INDIANA COOPERATIVE LIBRARY SERVICES AUTHORITY (INCOLSA)

Address:	1100 West 42nd Street Indianapolis, Indiana 46208
Telephone:	(317) 926-3361
Individuals Interviewed:	Mrs. Barbara E. Markuson, Executive Director Mrs. Janice Alexander, Network Librarian
Date Information Obtained:	June 23, 1976 (revised June 10, 1977)

I. Current Status

A. Organization

INCOLSA is a tax-exempt, not-for-profit municipal corporation created as a "library services authority" under the provisions of the Indiana Library Services Authority Act of 1967. INCOLSA is governed by a Board of Directors consisting of one representative from each member institution (i.e., "governing authority" in Indiana legal parlance). An eight-person Executive Committee (consisting of INCOLSA board officers, plus three elected directors-at-large and the immediate past president as a non-voting ex-officio committee member) "take full charge of, manage, and conduct business of INCOLSA," except for certain activities, such as the acceptance of new members, which require full board approval. All libraries in Indiana may join INCOLSA, including private or for-profit institutions, as long as public members are in the majority. The board-appointed executive director carries on the day-to-day business of INCOLSA, pursuant to authorizations granted by the Executive Committee. Board approval, i.e., full membership vote, is needed for budget, legal matters, policy, major contracts and purchases, and other "major" business actions. INCOLSA is subject to Indiana financial regulations for public corporations, and its books and financial forms are audited by the State Board of Accounts.

The 110 INCOLSA board members voted not to join the Midwest Region Library Network (MIDLNET) until the benefits of such

membership become clear. Indiana University is MIDLNET's only Indiana member. INCOLSA maintains contact with other library networks through membership in the Council for Computerized Library Networks, by seminar and conference participation, and by keeping other information channels open.

B. Services

OCLC services are managed in Indiana by INCOLSA, with thirty-nine OCLC-100 terminals in operation on leased multidrop lines from Columbus, Ohio. INCOLSA introduces new members and users to the OCLC system and assists with catalog card profiles and with terminal operation. Users contact OCLC only for terminal malfunctions; INCOLSA handles all other questions and problems dealing with the OCLC system and online cataloging. A terminal at INCOLSA headquarters is used for training, testing, and input for the Indiana Union List of Serials and as a shared terminal for cataloging by small libraries, and for demonstration purposes. The INCOLSA contract with members for OCLC services requires use of the full MARC format. Spot checks by INCOLSA staff monitor these agreements.

Since the "majority of Indiana libraries cannot afford use of an online network at current OCLC or commercial rates," INCOLSA has a processing center to offer MARC service and book processing to the state's smaller libraries. The thirteen people staffing the Crawfordsville Center perform full book processing including purchase, book preparation, cataloging, and billing for approximately 40,000 titles per year.

INCOLSA is working to update the Indiana Union List of Serials, possibly by OCLC-assisted conversion to machine-readable form. A statewide union catalog of monographs is gradually being built by OCLC participants. INCOLSA is examining formats, media, and techniques for preparing an output product from this growing data base.

In cooperation with multicounty cooperatives known as Area Library Service Authorities (ALSA's), INCOLSA is planning a continuing education program for state librarians. The areas of interest are use of MARC and information storage and retrieval techniques. Library school faculty are encouraged to attend free or low-cost INCOLSA training sessions.

INCOLSA headquarters began a newsletter for participants to supplement its irregular technical memoranda and member reports, issued when one of its five staff people or a member attends a conference or workshop of general statewide interest.

C. Finances

A Title I LSCA grant supported the feasibility study for a Cooperative Bibliographic Center for Indiana Libraries (COBICIL). The first three years of INCOLSA operating costs are being funded by another LSCA grant; therefore, no surcharge is placed on OCLC or Crawfordsville prices. Kellogg Foundation grants and LSCA money funded many OCLC terminal purchases. Indiana's Library Services Authority Act of 1967 authorized INCOLSA to receive funds from members, federal agencies, and donors as well as to expend funds without appropriation and to enter contracts and invest funds. Therefore, with board approval, INCOLSA may become a self-supporting or fee-supported organization.

II. Experiences and Results

Informal groups discussing academic library cooperation worked with the Indiana State Library (which encourages multi-type cooperation) to propose the COBICIL feasibility study which began in October 1972. This two-year study surveyed the status of Indiana libraries, analyzed national developments, and recommended a plan of action leading to the creation of INCOLSA in 1974.

The COBICIL study pointed out that in 1972, nearly 10% of Indiana's 5 million people had no access to a local public library. Almost 60% of the hundreds of librarians responding to the survey were enthusiastic about the concept of a cooperative bibliographic center. Services most desired were found to be access to a union catalog to support ILL, access to a large catalog of current titles, and the provision of catalog cards. The visibility and participatory nature of the authority form of organization were preferred to the more stable but less democratic state agency or the independent contractor. Not all libraries in the state belong to INCOLSA, since a large board would be too cumbersome. Therefore, INCOLSA's organizational structure may be modified as experience is gained, although any changes must be approved by the Indiana State Legislature.

INCOLSA sought telecommunications line configuration advice from three sources: OCLC, the Indiana Educational Telecommunications System (IETS), and Indiana University. The fact that the low-cost voice-grade net of IETS and Indiana University were dropped from a federally discounted line in the middle of a budget year led INCOLSA to use the AT&T lines suggested by OCLC. In general, users are pleased with OCLC. INCOLSA's OCLC users averaged over 1,000 first time uses (FTU's) per month between January and June 1976.

Two positive roles of INCOLSA are problem solving and improving library services.

III. Plans

INCOLSA's next major system improvement will be an online holdings system for its union list of serials. Bibliographic products prepared from OCLC archive tapes are also planned. INCOLSA may offer free cataloging/processing services as a demonstration during a test of its modified Crawfordsville operation.

Online data bases will be suggested. It is hoped that they will be made available by the authority along with training in online and batch searches. INCOLSA will not offer full library-like reference services--it will in no way compete with its members. MARC/OCLC tapes may be analyzed for overlapping selection tallies, but no acquisitions service will be developed.

Indiana's TWX network for ILL may gradually be replaced by the online ILL service being developed by OCLC. INCOLSA is planning for the eventuality. In general, INCOLSA will "shop for its technology" rather than maintain an in-house systems staff. Telecommunications standards developed by the Library of Congress, OCLC, etc., will be endorsed and implemented if feasible and cost effective for Indiana.

INCOLSA adopts a stringent cost approach to existing and planned services, since its budget is low and no state aid is available to it as yet.

MIDWEST REGION LIBRARY NETWORK (MIDLNET)

Address:	University of Wisconsin--Green Bay 2420 Nicolet Drive Green Bay, Wisconsin 54302
Telephone:	(414) 465-2750
Individual Interviewed:	Mr. T. John Metz, Executive Director
Date Information Obtained:	June 24, 1976 (revised March 17, 1977)

I. Current Status

A. Organization

MIDLNET is a tax-exempt, not-for-profit corporation chartered in Illinois in 1975 to provide library network services and to act as a coordinator for library development in the Midwest. The Midwest is defined in the MIDLNET bylaws to include the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin, "or those states as the Board of Directors by resolution provide." This governing board, which met for the first time in October 1975, has fifteen members, including the directors of state library agencies, state networks, and the Association of Research Libraries (ARL) members or the libraries eligible for ARL membership which committed $10,000 each to the initial operation of MIDLNET.

To streamline decision-making, a six-person Executive Committee exercises nearly all of the "authority and power" of the Board of Directors in the management of MIDLNET. These six people are the president, immediate past president, president-elect, and three members elected by the board. An executive director, appointed by the board, serves as a non-voting, ex-officio member of the Executive Committee and is responsible for the administrative affairs of MIDLNET and the execution of all orders of its board. A Technical Committee has been formed to advise the board.

Legal counsel recommended that MIDLNET be established as a federal interstate compact to give it the status and support accruing from legislative action. Expediency and the uncertainty of legislative action led the founders to adopt a non-profit corporate organization, which might be replaced by a compact in the future. Representation in MIDLNET is on a state rather than a wide individual library membership basis, but the intent is "that all Midwest libraries are automatically 'members' of MIDLNET and eligible to participate in its projects and services as these emerge." The Executive Committee is now studying means to expand the membership. Midwest libraries are not required to use MIDLNET services. Each state is free to decide for itself whether it should belong to the MIDLNET region or not. The Bibliographical Center for Research in Denver, for example, plans to serve Kansas and South Dakota libraries, and OCLC serves many libraries in Ohio and elsewhere in the Midwest. MIDLNET, which now has an IRS ruling to serve for-profit libraries, does not plan to compete with other networks or service suppliers, but rather to cooperate, coordinate, and select best alternatives for its members. MIDLNET is to build upon and support the many local and state library cooperatives in its region.

B. Services

During the first few months of its existence, MIDLNET has, of necessity, been concerned primarily with planning. In January 1976, MIDLNET's first invitational symposium was called to discuss the role of local, state, and regional networks in the emerging national network. Its first seminar of a planned series was scheduled for June 1976 to inform Midwest librarians about the administration and utilization of bibliographic data bases in libraries. Midwest library planning documents are being reviewed under MIDLNET auspices. Means of assisting area libraries in obtaining OCLC and other bibliographic data services are being developed. A Midwest serials holdings data base proposal is being drafted. A pilot mode link of Midwest libraries to the University of Chicago data system has been proposed to the Board of Directors.

MIDLNET has also contacted the telephone company and state administrators seeking rulings favoring libraries, such as a Wisconsin ruling giving public access to low-cost DAIN lines and an Indiana ruling requiring that private colleges receive the same rates and access to services as public institutions. These rulings will be used as precedents in requesting low-cost phone rates for libraries in every state in the region.

Because MIDLNET is less than a year old, its major services are still being planned; however, as of this date the OCLC users group in Iowa and Missouri is operational. Also a group of libraries is using the Bibliographic Retrieval Services' data bases through MIDLNET. This service was based on the results of a seminar for its members on the use of bibliographic data bases. Finally, MIDLNET has obtained a grant from the Council on Library Resources to find a technical adviser, and it has a representative on the Council for Computerized Library Networks and the LC Network Advisory Group.

C. Finances

Academic and other libraries funded a study to determine how MIDLNET should be organized. The costs of MIDLNET's staff for its first three years of operation are being funded by initial $10,000 membership or "sponsorship" fees from major resource libraries, state libraries, and state networks in the region. Annual dues may also be assessed if the Board of Directors so chooses. After the initial three-year period (or earlier if possible) service fees and federal funds are expected to support MIDLNET.

II. Experiences and Results

In 1970 the Council of Wisconsin Librarians (COWL) which established the Wisconsin ILL Service (WILS) found that projects they wished to implement required interstate support. Interstate meetings were called in 1972 and 1973, and a study to determine the organization of MIDLNET was proposed. Libraries and library groups contributed $37,500 from their own budgets to support this study, which was carried on under the auspices of the Committee on Institutional Cooperation. CIC is comprised of the chief academic officers of the Big Ten Universities and the University of Chicago. Study topics addressed in the final report, which was issued in 1975, included legal, organizational, managerial, and budgeting factors, and reasons for and against MIDLNET. Incorporation and start-up followed in accordance with this study's recommendations.

Unlike networks created to broker OCLC services, MIDLNET plans to "fill in the gaps" in the Midwest where online shared cataloging is needed and to build on existing OCLC services. Potential members' initial reaction to MIDLNET has been favorable; however, one area library, losing a major internal research and development capability, reacted somewhat negatively, and there is skepticism about the politics of achieving network-wide trust and cooperation. Some Midwest libraries order

unsorted computer-produced catalog cards, since they prefer to check each card for completeness before sorting them manually and filing them. They do not trust their processing service or its sorting program.

III. Plans

MIDLNET intends to meet at least the following five objectives specified in its August 1975 Progress Report to the Library Community.

A. Reduce per-unit costs of library operations and services.

MIDLNET will provide an online catalog service with holdings data based on a centralized computerized bibliographic data base which is designed to interface with library functions such as ordering, check-in, process control, and circulation. OCLC services will be offered on an interim basis. Regional testing of the University of Chicago online system is imminent. MIDLNET will also be concerned with regional and national system integration.

MIDLNET will lower communication costs with improved interfacing, bulk purchases, shared facilities, and some redesign. MIDLNET concentrators are being considered. Dial-up access to OCLC and other data bases will be encouraged for low-use sites.

MIDLNET will act as a focal point for sharing computer expertise and developments among Midwest libraries and will provide them with authority file services by linking direcly into LC.

B. Provide rapid and efficient access to and delivery of Midwest library resources (nearly 200 million volumes) to users.

MIDLNET will coordinate Midwest serial union lists projects, provide access to or information about data base services of interest to Midwest users, provide selective dissemination of information (SDI) services, develop a coordinated interstate interlibrary loan/location and delivery system, and improve access to state and local documents by promoting input and access standards for these materials. A group is being formed to take advantage of subscription service discounts.

C. Coordinate and improve library planning and research and development in the Midwest.

MIDLNET will provide the means for sharing library expertise and encouraging free exchange of planning, funding, and technical ideas. Regional research and development and grant seeking will be encouraged. Central coordination of regional research and development at MIDLNET could address the problems of small institutions. A MIDLNET training program may result from this activity. The technical staff at MIDLNET headquarters will expand.

D. Provide a vehicle for the Midwest's participation in federal funding for regional network development and a voice for the Midwest in the emerging national library network.

E. Protect the Midwest's library resources through a coordinated preservation program.

"The long-range goal of MIDLNET is to assist each library in its goal of fully meeting the informational needs of its users." Only cost-effective plans will be implemented.

MINNESOTA INTERLIBRARY TELECOMMUNICATIONS EXCHANGE
(MINITEX)

Address:	30 Wilson Library University of Minnesota Minneapolis, Minnesota 55455
Telephone:	(612) 376-3926
Individual Interviewed:	Ms. Alice Wilcox, Director
Date Information Obtained:	July 21, 1976

I. Current Status

A. Organization

MINITEX is a multitype library resource-sharing program administered by the University of Minnesota under contract to Minnesota's Higher Education Coordinating Commission (MHECC) which is directly responsible to the State Legislature. The commission is made up of one elected representative from each Congressional district and three at-large representatives appointed by the Governor and confirmed by the State Senate. MHECC staff overseeing this library program are aided by the MINITEX Advisory Council--a group of elected representatives from each participating system. MHECC approval is required for major membership, budgetary, and policy decisions. Four staff units report to the MINITEX director: Resource-Sharing, Bibliographic Coordination (Serials and Monographs), Reference Continuing Education, and Office Management. In this way, twenty-one full-time staff and twenty student assistants are organized along functional lines.

MINITEX serves 146 libraries and library consortia of all types. Most are in Minnesota, but a quid pro quo agreement with the Wisconsin Interlibrary System (WILS) and a contract with North Dakota make libraries in those states eligible for MINITEX service. Lakehead University in Canada also uses MINITEX, as do many other libraries which send service requests through the 146 primary users.

B. Services

Seven major services are offered:

1. Communication Network

Currently sixty-two libraries contact MINITEX headquarters and each other via a TWX network, eighteen use the Minnesota Educational Computing Consortium's (MECC) Minnesota Educational Regional Interactive Time Share System (MERITSS) DDD TWX and teletype terminals, and two use facsimile. All may use WATS lines, regular phone service, courier, and mail. MINITEX staff monitors the performance of this network, assists with problems, and helps implement improvements. They are now working to install OCLC service in thirty libraries.

2. Shared Resources/Document Delivery

Photocopies of interlibrary loan (ILL) items are offered by MINITEX Central by drawing on over forty Minneapolis-St. Paul-area libraries plus libraries throughout Minnesota, Wisconsin, and North Dakota. Items not available from these sources may be secured from the Midwest Regional Medical Network, the Center for Research Libraries, or the British Lending Library. Delivery usually begins within forty-eight hours after the receipt of a request.

3. Bibliographic Data Base (MULS)

To facilitate the statewide handling of requests for photocopies of journal articles, MINITEX produces the Minnesota Union List of Serials (MULS). The data base for this list contains over 121,000 records (including the MARC II serials) for nearly 78,000 titles, which represent the holdings of 140 Minnesota, North Dakota, and Montana academic, public, and state agency libraries in over two hundred locations, plus the Little Magazine Collection at the University of Wisconsin. Each participant has a free subscription to MULS.

The MARC II serials format is used for MULS, but not all fields are completed for each record. Cross references to variant titles appear in both the five-volume printed first edition and in the quarterly microfiche updates. Additions, cancellations, deletions, title changes, etc., are reported by each library for the update fiche--which supersedes all previous publications, giving the user one place to look for a title.

MULS has been used as a major start-up file for the CONSER (Conversion of Serials) project. OCLC terminals at MINITEX are used for CONSER input and for limited OCLC activity.

4. Information/Reference Network

Reference questions not answerable locally may be transmitted by a toll-free (WATS) call to MINITEX. The University of Minnesota and other Twin Cities libraries provide back-up for MINITEX, and long distance phone calls are sometimes placed to other U.S. libraries to obtain answers. Minnesota citizens may pose their questions directly to a MINITEX reference librarian during regular working hours. Answers are either telephoned or mailed to the patron. Questions involving medical diagnosis and treatment or legal procedures are discouraged. This service also provides an opportunity for consultation among librarians when searching for information sources.

5. Collection Development

Key MINITEX participating serials librarians make monthly conference calls to discuss new subscriptions, cancellations, and binding/retention problems. MINITEX also runs a duplicate exchange program and operates a clearinghouse file of titles for unique and expensive sets submitted by participating libraries. Accessions lists are shared among participants.

6. Online Bibliographic Searching

Several participants have access to online data bases. For libraries lacking equipment or staff, MINITEX staff members will either conduct the search themselves or arrange for local university staff to do so using MEDLINE, the data bases of System Development Corporation and Lockheed, or other computerized search services.

7. Continuing Education

MINITEX Reference Workshop Weeks show participating librarians how MINITEX requests are handled, familiarize them with the Twin Cities' library resources, which constitute 75% of Minnesota's total resources, allow them to use current reference tools including online searching, acquaint them with MINITEX resources, and offer them a chance to discuss reference problems with their colleagues.

The MINITEX Messenger serves as a newsletter and description of network services and schedules. Special workshops

deal with the International Standard Bibliographic Description, International Standard Serial Number, MARC serials, chapter 6 of the Anglo-American Cataloging Rules, MARC editing, and other current topics.

C. Finances

A grant from the Louis and Maud Hill Family Foundation and matching state and federal LSCA Title III monies funded a two-year trial network demonstation starting in 1969. This grant paid for TWX rental and return of the borrowed materials as well as for certain other photocopy and loan costs. Since 1971, the largest single contribution to MINITEX operating funds has been MHECC state program money. The St. Paul Office of Public Libraries in Cooperation (OPLIC), state and federal LSCA money, and the North Dakota State Library add further support to MINITEX.

A contract with Montana will enable MINITEX to produce that state's union list of serials. A cash settlement from North Dakota covered costs of incorporating that state's serials into the MULS data base and producing a North Dakota union list. A Bush Foundation grant is paying for thirty OCLC terminals. An LSCA grant paid for a statewide reference network pilot project. MULS began when participants agreed to devote a portion of their document delivery funds to that project. MHECC and OPLIC funds continued MULS. There are no membership fees or service charge burdens at present. MULS is free to members but is sold for $350 for the hard copy first edition and $50 for microfiche updates.

II. Experiences and Results

The University of Minnesota is the only public-supported university in a state that has no large private universities, and its library resources nearly equal the combined resources of other higher education libraries in the state. The University of Minnesota's library director proposed a two-year network project to test the feasibility of sharing his library's resources with patrons of out-of-state libraries. MINITEX began after this test proved that a state-supported program serving all citizens could be practical, economical, and free of effects detrimental to the service to the university's faculty and students. Multilateral service agreements were negotiated with the state and Twin Cities libraries and library cooperatives. By June 1972, sixty-five libraries in the state had TWX links to MINITEX, directly or through MERITSS.

MULS was begun as a University of Minnesota union list when the two-year pilot showed that 75% of the requests were for photocopies of journal articles; hence, searching and verification would be simplified if member libraries and patrons had access to a union list. The two-volume MULS, consisting of the University of Minnesota holdings, was published in 1972. The present five-volume first edition covering statewide holdings appeared in 1974. MULS' adherence to MARC II and AACR led the CONSER project to acquire the file.

In 1968 there were approximately 20,000 ILL transactions in Minnesota. With the wide availability of MULS, MINITEX processed 129,118 interlibrary requests in the 1974-75 academic year, filling 87.6% of them (84% from Minnesota resources). Loans satisfied 17.2% of these; photocopies, 82.8%. The University of Minnesota filled 79.7% of these, and 20.3% were referred to a secondary location. Over 73% were processed in twenty-four hours.

The success of MINITEX is attributed to several basic policies: (1) procedures are kept simple and, therefore, inexpensive; (2) service is rapid; (3) TWX transmission of requests is encouraged (TWX is fast and results in printed requests and responses); and (4) expeditious delivery of materials is used--mail, courier, or United Parcel Service. In 1974-75, MINITEX estimated a unit cost per request of $2.00, versus the national average of $7.50 to $12.00 per transaction. (This is not for expedited service; it does not include TWX costs, free photoduplication, or courier delivery.)

The continuing education program brings small groups of reference librarians from a particular area to Minneapolis for one week. The meeting fosters communication in their area and informs the librarians of their own local resources as well as those of the Twin Cities. Training materials are in loose-leaf form, and there is a requirement to return obsolete pages.

By adhering to cataloging, ILL, TWX, data processing, and other national standards and by using a "vertical mobility" design philosophy, MINITEX has assured itself compatibility with other networks and has seen its procedures used as a model for several in-state library cooperatives as well as for certain plans proposed by the Midwest Region Library Network. Data gathered from usage patterns have aided in staff assignment and collection development. Perhaps most importantly, long-range cooperation has been achieved.

III. Plans

The next major task planned by MINITEX is the use of OCLC to develop and maintain a Minnesota cataloging data base for monographs and eventually for non-print materials. MINITEX will assist members in shifting from TWX to online terminals capable of message-switching, ILL, and bibliographic editing. OCLC is the most likely vehicle. Possible future projects include the capability for preservation and storage of little-used materials in Minnesota. The network's commitment to existing and developing national standards will continue to influence its plans.

NEW ENGLAND LIBRARY INFORMATION NETWORK (NELINET)
AND
NORTHWEST ACADEMIC SCIENCE INFORMATION CENTER (NASIC)

Address: 40 Grove Street
Wellesley, Massachusetts 02081

Telephone: (617) 235-8071

Individuals Interviewed:
Mr. Ronald F. Miller, Director, NELINET
Mr. William D. Mathews, Assistant Director for Systems
Ms. Ruth L. Tighe, Assistant Director for Field Operations
Dr. Alan D. Ferguson, Executive Director, New England Board of Higher Education

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I. Current Status

NELINET is a cooperative library network now "brokering" services from the Ohio College Library Center to fifty-four libraries in the six New England states. NASIC is a multi-institutional cooperative operating a computer-based bibliographic searching capacity to serve academic institutions and their research constituencies in the Northwest (i.e., the New England states plus New York, New Jersey, Pennsylvania, and Delaware). Both NELINET and NASIC are programs of the New England Board of Higher Education (NEBHE) which was established in 1955 under the aegis of the six-state, New England Higher Education Compact. NELINET is staffed by six full-time employees, NASIC by four.

Besides managing the day-to-day activities of NELINET, its director has overall responsibility for planning and administering the program, including contract negotiations and liaison with OCLC. The director is accountable to (and serves as an ex-officio member of) an Executive Committee composed of twelve members elected from the membership by the Membership Council. The Executive Committee represents the membership in setting priorities, developing policy, and establishing membership criteria and fees. The Membership Council, composed of the directors of each member library, meets twice yearly to

elect the Executive Committee and approve key policy recommendations. Other committees include the Finance Committee, cataloging and interlibrary loan committees, and member task groups.

Regular NELINET membership is available to any New England organization (profit or non-profit) that agrees to the terms of a membership agreement. Most members are academic libraries, but public and special libraries and Choice magazine are also members of NELINET. Affiliate members include the Five Associated University Libraries, the Washington (D.C.) Consortium of Libraries, the University of Quebec, the Pittsburgh Regional Library Center, the State University of New York, the Systems Analysis and Data Processing Office of the New York Public Library, the Cooperative College Library Center, and the City University of New York.

B. Services

NELINET's "mission is to facilitate the sharing of library and information resources and services for the people of New England by: developing and operating a New England library network capable of serving as a node in an evolving national bibliographic and information network; cooperating with consortia, agencies, and institutions in the development of services and resources to which a computer network might contribute; and encouraging other activities which enhance regional and national library and information resources and services."

In keeping with this directive, NELINET has an agreement with OCLC whereby the fifty-four NELINET members may use OCLC services as individual users, as shared-terminal users, or as a consortium. Terminals aid members in cataloging, ordering card sets, finding interlibrary loan locations, and verifying acquisitions or reference requests. NELINET member libraries receive individual assistance in defining their OCLC requirements, staff training, catalog card profile generation, and day-to-day problem solving. Arrangements for terminal purchase and installation, maintenance service contracts, coordinated centralized billing, and monitoring of service are also provided. Workshops, seminars, meetings, and informal newsletters supplement initial training and keep users abreast of new developments. Members also receive a monthly newsletter Channel, monthly system statistics, minutes of Executive Committee meetings, the NELINET Manual of Organization and Policies, an annual report, and other special reports. NELINET represents user interests regionally and nationally by

interacting with such groups as the New England Library Board, the New England Library Association, the National Commission on Libraries and Information Science, the Council for Computerized Library Networks, and others.

Computer professionals on NELINET staff develop new services for members on the NELINET computer system and assist members in the evaluation and use of computer-related technology.

NASIC services include assisting universities in establishing local online search services and offering a NASIC Central Search Service to inquirers in small academic institutions or others who lack their own terminals. Installation aid includes equipment installation, user training, interface with data base suppliers, and promotional aid. Central Service provides to distant users the skills of a NASIC librarian in query structuring and interactive search by mail or telephone. Such a user may call NASIC and speak with a librarian throughout the execution of a search of the data bases from Lockheed, Systems Development Corporation, and others, which is conducted at NASIC on NASIC's terminal by the NASIC librarian.

C. Finances

Grants from the Council on Library Resources and the U.S. Office of Education funded early development work aimed at automated card production and a NELINET online network. Membership assessments now cover essentially all NELINET operations. A one-time fee plus recurring membership and per-item charges account for NELINET's revenue. NASIC is supported with funds from the Office of Science Information Services of the National Science Foundation, and with fees for training and for computer time and offline printing.

OHIO COLLEGE LIBRARY CENTER (OCLC)

Address:	1125 Kinnear Road Columbus, Ohio 43212
Telephone:	(614) 486-3361
Individuals Interviewed:	Mr. Stuart Debenham, Assistant Executive Director Mr. James Barrentine, Assistant Director, Research and Development
Date Information Obtained:	July 16, 1976 (revised May 26, 1977)

I. Current Status

A. Organization

OCLC is a not-for-profit corporation chartered by the State of Ohio in 1967 and now providing online union catalog information, shared cataloging, and catalog production nationwide. The creation of OCLC culminated work begun in the 1950's by the century-old Ohio College Association whereby presidents of Ohio colleges and universities planned to increase availability of academic library resources throughout the state and to slow the rate of increase of library expenditures. Initially members of OCLC were Ohio academic institutions. Early in 1973 members voted to change the charter to admit public and other non-academic Ohio libraries classed as tax-exempt by Section 501(c)(3) of the Internal Revenue Code. A nine-member Board of Trustees elected to staggered three-year terms from the designated representatives of the nearly eighty Ohio member institutions is responsible for governing OCLC. Over one hundred sixty OCLC employees report through an associate director to an executive director, who is responsible to the board for all center activities. Recently reorganized, OCLC's major divisions are: Library Systems, Research & Development, Computer Facilities, and Administration and Finance.

In March 1973, OCLC members voted to extend services outside Ohio on a continuing basis, although formal network agreements with specific termination dates had been in effect

since 1972. By another amendment of the Articles of Incorporation, the center expanded its scope in 1974 to "provide services and products for the benefit of libraries...and groups of libraries wherever...situated." Thus OCLC is ready to serve institutions in any state or country and declares no "monopoly" for providing computerized library processes and products in Ohio or elsewhere.

OCLC can serve for-profit institutions in Ohio only if the service represents a very small fraction of the center's total business.

A study to extend the governance of OCLC outside Ohio is underway. Seven network directors representing many states are regular observers at OCLC board meetings. The executive director is authorized to accept new individual library participants, but new network agreements require board approval.

B. Services

Over 1,200 terminals on forty-five multidrop phone lines radiating out of Columbus now provide more than six hundred libraries with access to OCLC's online "union catalog." This data base of over 2.25 million records is made available on two Xerox Sigma 9 computers operating in parallel as dual processors, each handling half of the users. Other computers at OCLC handle telecommunications functions.

OCLC's computer services include: (1) online searching of monograph and serial records via author, author/ title, and title keys, LC card number, OCLC number, International Standard Book Number, International Standard Serial Number, and CODEN; (2) cataloging modification where records displayed from the data base may be made more timely or complete, corrected, or modified to meet local needs; (3) original cataloging where "new" cataloging records may be created from an existing record or all text may be keyed online on a workform displayed on the screen; (4) reclassification and conversion of catalogs to machine-readable form; (5) spine and book labels produced on a separate printer connected to a library's OCLC-100 terminal; (6) catalog card production at OCLC for shipment to users where the printing format, number of cards, and card sorting options are specified once by the user (OCLC computers now print over one million cards per week; (7) accession lists printed on unlined white paper for multilith masters, which can be ordered semimonthly or less frequently and sorted by holding library, call numbers, or principal topical subject heading; (8) OCLC MARC subscription service, which provides libraries and networks with OCLC records

in the MARC communications format on a weekly or less frequent basis (OCLC does not provide software for local processing of these tapes).

OCLC works with networks and individual libraries contracting for its services. Workshops, memoranda, the OCLC Newsletter, news releases, journal articles, and presentations at conferences are among OCLC's major information outlets. Toll-free WATS lines at OCLC facilitate reporting of malfunctions to the center. A vendor contract provides terminal maintenance throughout the United States, with the exception of one network, AMIGOS, which provides its own maintenance services. Participants pay OCLC a maintenance fee. With new installations, OCLC staff plans or assists in planning the telecommunications configurations. They also conduct or assist negotiations for equipment delivery and installation and check all equipment before turning it over to user libraries. Assistance in card profiling and system utilization is offered to all users. OCLC staff monitors error reports, informing the offending library of its mistakes and correcting the records as required. System statistics and special billings are distributed as needed. While libraries obtaining OCLC services via regional networks have more direct dependence upon the interaction with network staff than with OCLC staff, OCLC stands ready as a back-up for questions and problems.

Besides its operational functions, OCLC performs long-range planning and research and development regarding library automation and library networking. Systems testing and improvement as well as the development of new services are major activities at the center.

C. Finances

Membership dues (75%) plus grants (25%) from the U.S. Office of Education, the Council on Library Resources, and the National Agricultural Library funded most of OCLC's early start-up activity. Operational costs have always been met with customer charges. Grants cover some research and development, being less than 2% of the center's total budget.

The bulk of OCLC's revenues are earned from first time uses (FTU's), for which a basic charge of $1.18 is levied. An FTU is "the first time a library uses for catalog production a record already in the online catalog that it did not input." To encourage contributed data there is no charge for putting original cataloging into the system--only a charge for using for catalog production data the first time that it is already there.

Catalog cards are now printed at 3.9¢ each. Charges for accessions lists, archive tapes, and other services make a lesser contribution to revenues, but as new services are implemented, the portion of total revenue attributable to cataloging funds will decline. Capitalization funds for building and equipment are raised by borrowing from banks and other lenders. The Board of Trustees voted to add 10¢ to the base FTU charge to reduce an initial shortage of working capital.

Research and development grants as well as earned revenue enable OCLC to improve and expand over the years. For example, recently a W.K. Kellogg Foundation grant was received to develop a mechanism to give users access to other online information retrieval systems from an OCLC terminal. A recent State Library of Ohio grant will enable OCLC to perform retrospective conversion to machine-readable form of the grantor's catalog and the catalogs of seven major Ohio public libraries.

II. Experiences and Results

Since the online union catalog and shared cataloging system became operational with Ohio University in August 1971, OCLC's growth has been rapid--first throughout Ohio, then nationwide. Technical, economic, political/psychological growth has accompanied and enabled the quantitative growth. A chronicle of OCLC's experiences is contained in the center's newsletter and annual reports. Opinions and reactions to OCLC in the library literature include recent user studies by Hewitt 2/ and Markuson.3/ Certain relevant highlights from the literature (including OCLC publications), plus comments from OCLC staff, follow:

- The center's early goals for sharing resources and producing economies of scale are still valid and desirable.

- Partial support of research and development with outside funding and support of operations with service revenues have been demonstrated. Capitalization of fixed assets was achieved by leasing (with options to purchase) and by borrowing. Working capital is obtained from retained revenues.

- Some charter members in Ohio joined OCLC on faith. They contributed funds to foster development of a system which was being criticized. They gambled.

- In the early years, achieving cooperation and commitment were major tasks. Senior computer systems people were

reluctant to make careers in library automation. Determined efforts by OCLC's staff were essential to preserve the OCLC concept and to implement and maintain computerized services.

- A simulation proved invaluable for refinement of systems design before the online system was implemented. Cumulative complexities of bringing up the online system and offline catalog production system at the same time would have been overwhelming.

- When the data base contained over one million records, the membership created a Peer Council to review error reports and consult with libraries responsible for excessive errors. The large daily influx of records makes quality control inspection by OCLC staff impossible, but procedures for correcting errors detected by users were implemented.

- The need for redundant computers to maintain reliability was evident. A growing data base and growing national dependence upon it made security a more vital concern at later stages than at the outset of OCLC's development work. A distributed data base may be in order.

- The user manuals compiled by the Pennsylvania Area Library Network (PALINET) and the AMIGOS Bibliographic Council are more current than OCLC's and are recommended by OCLC to other users.

- For OCLC or similar library automation centers to continue research and development, the on-going systems must be improved and newer functions based on existing or new technology developed.

- Pioneering computerized library system developers like OCLC had "no one to go to, no one's experience to learn from."

- The CONSER (Conversion of Serials) project negotiations with the Council on Library Resources were complicated because of the status of the CONSER file at the end of the project and the lack of "Agreed Upon Practices" to define the responsibilities of the various project participants. Eventually, compromises were worked out.

- OCLC learned that despite careful planning, hardware delivery and installation problems did occur, which resulted in extra staff work and slipped schedules that affected both the center and its users.

- Location holdings data in OCLC have resulted in more libraries sending interlibrary loan requests to smaller and closer libraries. ILL verification has been facilitated by OCLC.

- Cooperative acquisition experience by OCLC users is still limited. Ownership of a title in a nearby library can either encourage or discourage purchase.

- The use of OCLC for pre-order verification of book orders before sending them to vendors has reduced delays in processing.

- Most users report that OCLC offers faster cataloging and card production than does manual methods.

- Many users report that OCLC has allowed a reduction in cataloging staff.

- In general, OCLC users have a positive attitude about the online system. Some complain about response time, delays in adding LC MARC records, cataloging quality, and development priorities. User-oriented OCLC staff channel such criticisms into research and development. For example, a new algorithm was prepared to eliminate the problem of deferred LC MARC records (MARC records which were not clearly distinguishable by the computer from records already in the file were deferred for subsequent manual inspection).

- No cost trends resulting from the use of the OCLC system are available, but a major OCLC objective is to reduce the cost of cataloging. More productive cataloging by a staff with less cataloging expertise is an immediate result. Usage of the OCLC data base for catalog production has been increasing. Annual percentages of the use of MARC records and records input by participants are given below:

Source	Year		
	1973	1974	1975
LC MARC II	41.7	50.1	61.8
Participating Libraries	24.7	32.0	41.8

- In 1975, for example, 61.8% of the MARC II records in OCLC's files were used by center participants while 41.8%

of the records contributed to OCLC by other libraries were used for catalog production.

- Each OCLC user has access to the same services, but the effect of OCLC on its users varies according to library size, classification and cataloging policies, catalog format, organization, work place design, and relative effort expended to obtain the greatest possible benefit from OCLC.

- A stated value of OCLC is that it has allowed for the first time the storage of a vast amount of bibliographic data in machine-readable form in preparation for the next phase of library file management in which card catalogs and book catalogs may no longer be used.

III. Plans

A third and fourth Sigma 9 computer will allow OCLC to offer its present services to 2,000-2,400 terminals. A new front-end computer acting as a network supervisor will route messages to different data bases. A standard industry telecommunications protocol will be used. Other planned enhancements of the online catalog include a subject search capability (currently being tested in prototype) and a mechanism for providing authority control.

Other new features will include: (1) serials control including check-in functions (recently tested in a pilot); (2) claiming and binding control; (3) automated purchase order production and acquisitions processing; (4) interlibrary loan communications and message-switching; (5) remote catalog access with local holdings, call numbers, and cross references; (6) online circulation control; and (6) cataloging and card production for nonbook materials.

OCLC users and staff often discuss the priority of implementing new features versus improving existing features. Users and library advisers contribute to and critique new OCLC features.

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PALINET AND
UNION LIBRARY CATALOG OF PENNSYLVANIA

Address:	3420 Walnut Street Philadelphia, Pennsylvania 19104
Telephone:	(215) 382-7031
Individuals Interviewed:	Mr. Robert C. Stewart, Executive Director Miss Janice Sherwood, Assistant Director, Union Library Catalog
Date Information Obtained:	June 30, 1976 (revised March 9, 1977)

I. Current Status

A. Organization

PALINET/ULC is a non-profit corporation chartered in Pennsylvania in 1936. The Union Library Catalog of Pennsylvania (ULC) began in 1935 as a Philadelphia-area catalog. PALINET operated informally as a subdivision of ULC to administer OCLC services since December 1972 under the direction of representatives of the first ten ULC members to use OCLC. As the number of OCLC participants increased, the governance of PALINET was merged with that of ULC in September 1975, by amending the ULC bylaws to take advantage of ULC's status as a non-profit, tax-exempt educational corporation. Of the approximately one hundred thirty PALINET/ULC members, sixty are OCLC users. Most are located in central and eastern Pennsylvania, but New Jersey, Delaware, and Maryland institutions are also represented. PALINET and the Pittsburgh Regional Library Center have an agreement for overlapping service in five counties in central Pennsylvania.

Bell Telephone Laboratories of Murray Hill and Holmdel, N.J., became the first PALINET/ULC for-profit members to participate in OCLC. PALINET fees levied upon profit and not-for-profit members are identical. The U.S. Internal Revenue Service ruled that acceptance of a for-profit member would not affect PALINET/ULC's tax-exempt status. Over forty for-profit

members have used ULC for many years. Bell was the first to use OCLC via PALINET.

The corporation is governed by a Board of Trustees composed of representatives elected from the membership, plus two representatives from the public at-large. The Executive, Nominating, and Finance Standing Committees are responsible to the board. Special committees may be formed when the board needs concentrated attention in particular areas of interest. The executive director (a non-voting, ex-officio member of the Executive Committee) is responsible for the activities of the six-person staff of PALINET/ULC and serves as the chief administrative officer of the corporation.

B. Services

PALINET "brokers" OCLC service in its area, and ULC provides interlibrary loan location and verification service. PALINET implementation assistance includes the scheduling of equipment installation, card-set profile preparation, initial training, and documentation. Several hundred copies of PALINET's Manual for Operation of the OCLC-100 Terminal and the OCLC System have been sold nationwide.

Liaison, trouble shooting, and contract negotiations on behalf of both primary and secondary users are conducted by PALINET staff. Primary users are institutions which assume financial responsibility for OCLC terminals and communications costs. Secondary users sign an agreement whereby they pay PALINET for training, card profiling, and administrative assistance plus all incurred OCLC costs, and pay a primary user for terminal and telecommunication use.

A staff of two maintains the ULC and offers location referral services based primarily upon the ULC. Located at the University of Pennsylvania, the ULC staff draws upon a variety of union catalogs, national bibliographies, and other reference works for item location and bibliographic verification. Its recently produced microfilm edition contains over four million entries with locations in more than 200 libraries. This edition is for sale in the PALINET/ULC region and enables institutions to do their own location searching.

Besides its OCLC training materials, the corporation issues memoranda to its users and members and publishes a quarterly newsletter PALINET and Union Library Catalog of Pennsylvania News.

C. Finances

The ULC was started as a Depression-era WPA project. An LSCA Title III grant funded certain PALINET start-up and operating activities. LSCA Title I grants funded some operating costs of district library centers in Pennsylvania and the purchase of OCLC terminals for public and academic libraries.

Each PALINET user pays annual and monthly administrative fees assessed equally for all members to cover the administrative costs of PALINET. There is no PALINET surcharge on OCLC or AT&T services. ULC users pay an annual fee entitling them to fifty searches, plus a per search fee for all location searches in excess of fifty.

II. Experiences and Results

PALINET users (many with four years of OCLC experience) have become accustomed to the benefits and problems of online bibliographic files. Complaints have been made regarding down-time, slow response, duplication of records, apparently excessive numbers of deferred records, and lack of authority control. OCLC is working to alleviate these and other problems reported by PALINET and other users. Users are pleased with PALINET training materials and comparatively low-cost service. Small libraries, however, since they are unable to afford access to OCLC, have been slow to participate as secondary users or cooperative users (which entails traveling to a primary user's terminal installation for access to OCLC). Lack of voting power at OCLC meetings is partially compensated by PALINET's observer status at OCLC. PALINET would like more details about OCLC's priorities and operations.

During its fortieth year, ULC handled 15,135 inquiries, representing 47,652 items searched. Requests were distributed as follows:

Source	No. of Inquiries in 1974-75
Academic libraries	9,326
Public libraries	2,188
Special libraries	1,928
Government libraries	1,507
Organizations without libraries	81
Individuals	71
Cooperating union catalogs	34
Total	15,135

A decline from 18,175 inquiries for 55,513 items in the 1973-74 year can be attributed to three factors: (1) telephone service to individuals was discontinued in June 1974 when calls were restricted to libraries; (2) the Pittsburgh Regional Library Center (PRLC) has handled all requests from academic and public libraries in western Pennsylvania since January 1975, using a microfilm copy of ULC's holdings; (3) OCLC terminals are being used more for ILL location searching (8,462 titles were searched, yielding 6,518 locations in ULC's service region).

Expansion of PALINET and PRLC in Pennsylvania caused the accessions reported to ULC to drop to 195,557 from 263,175 the previous year. Furthermore, ULC ceased adding accessions to its card file in December 1975, upon completion of the microfilming of the catalog. In the future, libraries will forward locations to the NUC or enter them on OCLC terminals. Accessions cards from 1970 through 1975 will be microfilmed as a supplement to the first microfilm edition of the catalog. Location service from the closed ULC will continue.

III. Plans

PALINET's primary future objective is expansion of OCLC participation and services in its region. PALINET is not planning to install a local concentrator in the near future, but instead would expand from four to five or more lines from Columbus, since the distance and resulting telephone line costs are perhaps not great enough to warrant a Philadelphia computer center. PALINET members must be convinced of the technical and economic soundness and the potential system-wide benefit before new ideas are implemented.

Cooperative storage is one area of interest; however, cooperative retention seems preferable to maintaining a separate storage facility. PALINET/ULC has also considered brokering data base services, but initiation of this service will depend on

membership demand and additional staffing. Corporate members have expressed interest in Tymshare access to OCLC.

PITTSBURGH REGIONAL LIBRARY CENTER (PRLC)

Address:	Beatty Hall, Chatham College Pittsburgh, Pennsylvania 15232
Telephone:	(412) 441-6409
Individual Interviewed:	Mr. Stephen B. Folts, Executive Director
Date Information Obtained:	June 29, 1976 (revised March 7, 1977)

I. Current Status

A. Organization

PRLC is a consortium of libraries organized in 1967 and chartered as a non-profit Pennsylvania corporation to promote cooperative activities among public and private libraries within a two hundred-mile radius of Pittsburgh--extending into Ohio, West Virginia, New York, and Ontario, Canada. Other library groups serving parts of this area include: the Ohio College Library Center, the Midwest Region Library Network, the University of Toronto Library Automation Systems, the State Univerity of New York, the Pennsylvania Area Library Network, the Southeastern Library Network, the Mid-Atlantic Region Library Network, and the Maryland Library Center for Automated Processing. Most PRLC members are organizations from western Pennsylvania and West Virginia.

The center is governed by a Board of Trustees consisting of two appointees from each of the thirty-six member institutions (a head librarian or senior library staff member, plus an administrator or professor). The executive director of PRLC is responsible for the activities of the three and one-half full-time staff members of the center and reports to the five elected officers of the board known as the "Executive Council." Standing committees on research and development, budget and finance, public relations, and membership are complemented by ad hoc committees dealing with interlibrary loan, visual materials, the Ohio College Library Center, a union list of serials, undergraduate borrowing, and other topics.

B. Services

Thirty-three member libraries use the OCLC services "brokered" by PRLC. PRLC's training staff introduces new members to the OCLC system and assists with preparation of catalog card profiles and with terminal operation. Liaison, trouble shooting, and contract negotiations on behalf of members are also conducted by center staff.

Since 1974, the center has operated a Clearinghouse for Interlibrary Loan. A PRLC staff librarian at the Carnegie Library of Pittsburgh, using a microfilm copy of the Union Library Catalog of Pennsylvania, the Pittsburgh Regional Union List of Periodicals, an OCLC terminal, the National Union Catalog and the Register of Additional Locations, and other tools, provides location and some verification assistance to member libraries. PRLC's members also have unique collections in areas such as steel and coal.

PRLC publications include:

- Pittsburgh Regional Union List of Periodicals, 1973.
- Major Microform List, 1973 (microform holdings of eight PRLC members)
- Newspaper Directory, 1976 (PRLC members' holdings)
- Expensive Items List (members' purchases costing over $100)
- Western Pennsylvania Resources Directory, 1975 (indexed description of services offered by all libraries in an eleven-county area, plus all PRLC members)
- Career Direction Bibliography, 1974.
- Report, 1975-76, 1977.
- PRLC Newsletter (bimonthly)
- The Monthly Catalog: Your Key to U.S. Government Publications, 1976 (slides, audiotape, and script module)

C. Finances

Annual membership dues, publication sales, plus a surcharge on OCLC-produced catalog cards (first time uses or FTU's are free of surcharge) support PRLC. Grants from the Hillman Foundation enabled the center to establish and operate the interlibrary loan clearinghouse and to conduct a pilot project to reduce periodical budgets. LSCA funds from the Pennsylvania State Library aided payment for installation and operation of OCLC terminals in district library centers (i.e., Pennsylvania public library cooperatives) and in academic libraries. Another LSCA grant was for microfilming card catalogs of eight research libraries in western Pennsylvania. If services offered under a grant are more costly than grant monies allow, an overhead assessment to members may be added by PRLC.

On a limited, cost-reimbursable basis, non-members may obtain certain PRLC services.

II. Experiences and Results

As an early OCLC participant (the first Spiras OCLC terminal was installed at the University of Pittsburgh in September 1971), PRLC has seen the technical and political problems of an emerging interstate network. Conversion of the Pittsburgh Regional Union List of Serials (maintained in card form since the 1920s) to machine-readable form began in 1973 and required three years of effort by local universities, OCLC, and others before being put online. Users complain about response time, terminal maintenance delays, and the PRLC surcharge and dues. Most have learned to expect down-time, especially when new software or hardware is being installed. A few want to edit online catalog records extensively and are, therefore, perhaps not using the full potential of OCLC. The online catalog is replacing a presumably more costly exchange of author cards among Carnegie Mellon University, the Carnegie Library of Pittsburgh, and the University of Pittsburgh.

Since all contributors to PRLC's union list do not have OCLC terminals, serials cataloging is still sent to the center in the form of cards, worksheets, tapes, marked printed lists, and OCLC input.

PRLC has had no need to maintain a technical staff, choosing instead to adopt OCLC technology and to contract for other assistance. The center has an affiliate membership in the New England Library Information Network, primarily for informational purposes, and was a charter member of the Council for Computerized Library Networks.

Besides providing its members with OCLC technology and other cooperative services aimed at achieving an economy of scale, PRLC has become a place where people can discuss common problems, overcome their geographic dispersion, make professional contacts, and form resource-sharing cooperatives.

In 1976, PRLC libraries averaged over 14,000 FTU's per month on the OCLC system. In nineteen months of operation, PRLC's Clearinghouse for Interlibrary Loan searched over 12,000 location requests for member libraries, most being transmitted by teletype. During the first half of 1976, public libraries sent between 74-81% of the interlibrary loan (ILL) requests; 17-25% were from academic libraries, and about 1% were from special libraries. In February 1976, public library members sent 54% of their ILL requests first to the PRLC clearinghouse; special libraries sent 30%. Of the 2,089 ILL requests sent out in February by member libraries, 844 (44%) were first sent to the clearinghouse for location information; 352 (17%) not sent first to the clearinghouse were found on OCLC; and 326 (16%) were found in the National Union Catalog.

III. Plans

An experimental minicomputer system for circulation, acquisitions, and ILL being built by the University of Pittsburgh's Graduate Library School and several western Pennsylvania libraries may be installed to reduce OCLC telecommunications costs. Regional message-switching is not being considered by the center at present. Increased online updating of the PRLC union list of serials via OCLC is being encouraged. The center will use technical and procedural innovations of other library developers whenever they are demonstrably cost effective.

RESEARCH LIBRARIES GROUP (RLG)

Address:	45 South Main Street Branford, Connecticut 06405
Telephone:	(203) 481-0369
Individuals Interviewed:	James E. Skipper, President John F. Knapp, Vice President for Systems Peter S. Graham, Senior Systems Analyst
Date Information Obtained:	June 24, 1976 (revised March 8, 1977)

I. Current Status

A. Organization

The Research Libraries Group is a consortium comprising the libraries of Columbia, Harvard, and Yale Universities and the Research Libraries of the New York Public Library. The intent of the consortium is to establish shared access among the four institutions' holdings of 26.5 million volumes. The individual libraries in the consortium had concluded that the cost-to-service ratio was not going to decrease as the libraries continued their growth, and an alternative needed to be explored. In addition to sharing existing resources, there is a desire to develop methods of eliminating unneeded duplication in acquisitions.

The Research Libraries Group is a non-profit corporation supported by its members. In addition to a small headquarters planning and coordination staff, it draws upon the staff of the member libraries to support technical study and design work. There are several committees and subcommittees which are assigned design and review tasks. In addition, these committees make use of outside consultants in specialized areas.

B. Services

RLG has implemented its shared resources program under the management of the Bibliographic Center located in the Yale

library. Policy statements assuring reciprocal access to collections have been drafted and approved by all members. The collection development program has been started to provide the opportunity for reducing unnecessary duplication in acquisitions through cooperative purchasing.

The systems staff and related committees are engaged in planning for the RLG bibliographic processing system, which insofar as possible, will be built on the transfer and adaptation of an existing computer-based library system.

C. Finances

One source of funds for RLG are member assessments. A second source is from government or foundation-sponsored grants for research and development. The operating costs of RLG programs must be paid by members on a cost-effective basis.

II. Experiences and Results

The results of RLG activity so far have produced agreement on standards, specifications, design, and technical proposals. These activities of the working committees are well documented and form the base for all future technical activity.

One result is that the members have agreed to modify any local cataloging procedures to use a single comprehensive bibliographic system based on national standards. To this end, one member (Harvard) changed its procedures to use LC cataloging standards. One related study, partially complete, will determine the differences in practice between the four members. A second study, performed by RLG's Bibliographic Processes and Control Committee, is complete and documents the design requirements of the RLG bibliographic system.

A major achievement was the securing of funding for an experimental project to connect an RLG member's computer (located at the New York Public Library) to the LC computer for purposes of bibliographic data searching and transmission. Several studies were completed which were required to support the proposal activity. This project is underway and promises to have significant implications in the distribution of catalog data in a national network. In connection with this project, a terminal configuration has been specified and procurement initiated.

Another activity is the review of the existing bibliographic systems in operation as candidates for adoption by RLG in identical or modified form.

III. Plans

Most of RLG's activities at this point involve the planning and overall design to support the development operation of a service system for its members. While the first priority of the RLG development is the cataloging system, the next may be a processing system.

The final area of planning is associated with RLG's interest in the national bibliographic system. RLG has expressed an interest in contributing input to the national system in the form of requirements, suggested technical approaches, and cataloging input. To this end, the technical staff of RLG is eager and willing to hold conferences with LC and others to work on whatever needs to be done to achieve an agreed-upon, economical national system.

SOUTHEASTERN LIBRARY NETWORK (SOLINET)

Address:	615 Peachtree Street, NE Suite 410 Atlanta, Georgia 30308
Telephone:	(404) 875-0745
Individuals Interviewed:	Mr. Charles H. Stevens, Executive Director Mr. Henry Howell, Technical Director Mr. Randall Cravey, Technical Coordinator
Date Information Obtained:	June 16, 1976 (revised March 5, 1977)

I. Current Status

A. Organization

SOLINET is a ten-state library resource-sharing cooperative now "brokering" OCLC services to more than one hundred fifty libraries in the South. SOLINET is a non-profit, tax-exempt corporation of Louisiana, certified to do business in Georgia, staffed by fifteen people, and governed by its Board of Directors which consists of nine voting members elected by the membership, and SOLINET's executive director as an ex-officio, non-voting board member. Not-for-profit organizations in SOLINET territory may be elected to membership by the Board of Directors. Libraries in the South need not join SOLINET. For example, the Cooperative College Library Center in Atlanta is an OCLC affiliate; a Louisiana library uses AMIGOS; an Alabama library uses BALLOTS; and a Tennessee medical library is linked directly to OCLC.

B. Services

SOLINET helps to provide bibliographic access in the South by focusing its main effort on shared cataloging services which it now provides through a contract with OCLC. Over two hundred sixty terminals are used by SOLINET members for cataloging, ordering card sets, determining potential lenders of interlibrary loan materials, and for verifying bibliographic data needed in

reference or acquisitions work. SOLINET's training staff introduces new members to the OCLC system and assists with the preparation of catalog card profiles and with terminal operation. Regional meetings are held to facilitate training and problem solving. SOLINET issues manuals, memoranda, and an irregular newsletter (Solinews) to inform members about operating procedures, user-oriented technical details, and other important items. The SOLINET staff also handles liaison and negotiations with OCLC and other networks and service suppliers. Terminal users with questions or problems contact Atlanta for advice. Only if network staff can't handle the problem will OCLC be contacted.

C. Finances

Grants from the Andrew W. Mellon Foundation and the Council on Library Resources, plus charter member initiation fees and donations, funded most of SOLINET's start-up activities. SOLINET is essentially self-supporting. Annual membership fees plus surcharges on OCLC services are a growing source of revenue. Currently SOLINET applies a 15% surcharge to most OCLC per unit costs except for archive tapes and catalog cards, both of which are free of surcharge.

II. Experiences and Results

Originally SOLINET was organized to replicate OCLC in the Southeast. Replication contract negotiations stalled and SOLINET considered the costly and difficult creation of an OCLC system without OCLC's assistance. This idea was abandoned and an OCLC "tie-in service" contract was signed in 1974. After a three-year planning and contract-negotiation period, the first OCLC terminals were installed at Emory University early in 1975.

Installation schedule slippages caused some cataloging backlogs to increase where staff assignment changes were made in anticipation of the online shared cataloging system. New OCLC hardware and software additions coincided with the installation of most of the SOLINET terminals, so down-time and slow response further aggravated new users. OCLC system performance and user efficiency have improved. In general, user satisfaction is good, and cataloging productivity has improved considerably. In 1976, SOLINET had approximately 90,000 first-time uses (FTU's) of OCLC records per month, i.e., one-fifth of OCLC's total FTU's. Users both praise and criticize SOLINET's OCLC service. Response/down-time problems still occur, and printed cards arrive (in the opinion of some users) too slowly, i.e., ten days or more after ordering. Authority control is absent and desired. In spite of

such complaints and SOLINET's lack of control over OCLC developments, costs, and priorities, the tie-in-contract gives the South access to a large telecommunication network of bibliographic data and access to OCLC technology.

Because of the dynamic nature of the system, SOLINET has learned that keeping manuals current has been difficult. Similarly, changing library needs have shown the importance of card-set profile preparation and modification. SOLINET training and documentation services have grown to meet user and system demands but have been in part dependent upon the Library of Congress, other library organizations, and network members for systems and procedural data as well as for instructional ideas.

SOLINET activities facilitated two special retrospective cataloging conversion projects in Florida, the Florida Union List of Serials (FULS) and the Florida Computer Output Microform Catalog (COMCAT). The success of COMCAT using fifty-two OCLC terminals proved the feasibility of such large-scale projects.

III. Plans

Fourteen multidrop, leased lines connecting OCLC to SOLINET terminals will be replaced by two high-speed (9600-baud) lines, one of which is a back-up line for use in case the other line fails. The high-speed link between OCLC and SOLINET headquarters' planned communications processor and concentrator will give SOLINET more control of its own network. Next, network optimizing will occur, for example, by placing multiplexors strategically in high-traffic areas such as Florida. Local control and optimization are expected to improve performance and reduce communication costs.

Later a regional data base and card/fiche production facilities may be developed. A compartmentalized regional union catalog has been suggested. Separate sub-catalogs may be produced for certain population areas such as Louisiana, southern Florida, and northern Florida to Mobile. Direct high-speed lines to other major data bases (OCLC, LC, BALLOTS, AMIGOS, etc.) and message-switching are also planned.

SOLINET will broker data bases offered by the System Development Corporation, Lockheed, and the New York Times and is investigating assistance to member libraries in COM catalog development for monographs and serials.

STANFORD UNIVERSITY'S BALLOTS CENTER

Address:	BALLOTS Center Encina Commons Stanford University Stanford, California 94305
Telephone:	(415) 497-0652
Individuals Interviewed:	Hank Epstein, Director Hanan Bell, Technical Development Donn Martin, Production Services
Date Information Obtained:	July 1, 1976 (revised March 15, 1977)

I. Current Status

A. Organization

The BALLOTS system has an extensive history of development beginning with a U.S. Office of Education grant in 1967, which developed BALLOTS I. The system has evolved through the years, and now a version called BALLOTS II (or simply BALLOTS) has been supporting the online technical processing activities of the Stanford University Library since 1972.

The BALLOTS group is organizationally part of the Stanford Center for Information Processing (SCIP). The transition of BALLOTS to an independent not-for-profit center (not part of Stanford University) is in the planning stages and should be completed around 1978-79. The BALLOTS project does not report administratively to the Stanford Library but accepts Stanford's as well as other libraries' requirements for computer services and products.

In 1975 the BALLOTS system was offered to users outside of Stanford on a dial-up basis through TYMNET. In 1976 the shared cataloging and shared communication line services were offered.

B. Services

The BALLOTS system provides a complete set of technical processing services, including acquisitions, to the Stanford University Library and shared cataloging services to other research, academic, public, special, state, and federal libraries. The shared cataloging service allows each library to retain its cataloged version of a title in the online file for later updating by that library, and allows other libraries to review the alternate versions of the title and select the most appropriate as a basis for cataloging. The key to these services is several files which store records as they pass from the LC MARC tape through the acquisition and cataloging process. These files can be accessed through an extensive set of indexes and a powerful set of search logic.

CRT terminals are located at work stations throughout the technical processing operation at Stanford. For those operations where printed products are needed, either for work documents, computer tapes, catalog cards or labels, they are produced at the computer center and delivered to the library on a daily, weekly, monthly, or bimonthly basis.

Technically the system is quite successful and has achieved savings of considerable clerical work. Offsetting these savings is the ongoing operational expense, both for personnel (a staff of thirteen) and computer services. Over one-half of BALLOTS' computing expenses are for file building, index updating, and storage costs.

To make better use of this relatively high, fixed expense, the BALLOTS Center has offered its services to other libraries through dedicated lines, dial-up, or TYMNET communication links. There are a considerable number of libraries using the service, including a number of larger university libraries in California.

C. Finances

The development of BALLOTS I and BALLOTS II was sponsored by sizable grants from the U.S. Office of Education, the National Science Foundation, the Council on Library Resources, and the National Endowment for the Humanities.

The current operational expense for supporting BALLOTS for the Stanford University Library is provided by the university. To support the promotion of the system outside of Stanford, the university has provided a loan to the BALLOTS Center. The proposed fee for use is $2.20 per title, assuming a five-card set. A service is also available which allows libraries to search the files and print information on their terminals, at a

current cost of $12 per hour. These services do not include communications costs which are either paid by the user or would be $9.00 per hour if TYMNET is used.

II. Experiences and Results

The BALLOTS system has been successful from a production point of view, and it continues to be used in the University Library at Stanford and at over eighty other libraries in the U.S. and Canada.

Its technical achievements are considerable, primarily in the area of index file construction and logical searching. These capabilities allow a cataloging data base to be searched with considerable power; however, it appears that this power also increases the expense of computer operations. An average MARC record creates approximately sixty entries in all of the index files, which, in turn, have to be updated periodically as new entries are added to the file. The question that must be posed is whether such complexity needs to be applied in the searching of library catalog records, which at present are highly structured and whose vocabulary is normalized and controlled. The answer lies in an evaluation of search capability versus costs. For technical processing, this may not elicit the same answer as it does for reference work.

BALLOTS maintains that using larger storage and more access points provides a better system balance because the central processing unit of the computer and input/output operations and user time are used less because the searches are more specific.

III. Plans

The BALLOTS Center has plans to participate in network activities and has offered to distribute services off campus and outside the state of California. To this end, they have stated a willingness to work cooperatively on a national network and urge that LC play one of the major coordinating roles. They see for themselves a role in the western area of the U.S. that should be as much defined by the most economic technical architecture of the network as by organizational boundaries.

BALLOTS staff members, in addition to performing program maintenance and adding new processing functions, spend time on future network planning. They see distributed computing as a key to future network development, because it will offer more economic solutions to the costs of storage, file maintenance, and telecommunications. They would seek representation on any

committee or working group which would develop agreed-upon standards for equipment, software, and communication techniques for such a national system architecture.

UNIVERSITY OF MASSACHUSETTS AT AMHERST LIBRARY

Address:	University Library Amherst, Massachusetts 01002
Telephone:	(413) 545-0284
Individuals Interviewed:	Mr. Richard J. Talbot, Director of Libraries Mr. James S. Sokoloski, Manager, Library Systems
Date Information Obtained:	March 19, 1976 (revised March 9, 1977)

I. Current Status

A. Organization

The Director of Libraries heads one of the university's primary organizations. The three major departments of the library are Bibliography, Public Services, and Technical Services. Music, Biological Sciences, and Physical Sciences libraries, and other units are grouped under Public Services. Technical Services includes the BCL Project (discussed below) among its components. Other elements reporting to the director are Archives, Audiovisual, and Library Systems. Business and personnel functions are subsumed by the director's staff. Total staff size consists of approximately two hundred full-time employees.

The University of Massachusetts is a member of the Greater Boston Consortium of Academic and Research Libraries or Boston Library Consortium (BLC), Five Colleges (the other four colleges are Amherst, Hampshire, Smith, and Mount Holyoke), and the Massachusetts Conference of Chief Librarians of Public Higher Educational Institutions (the six New England state universities). The Five Colleges' jointly-owned collection of research materials, primarily serials, is located at Amherst College and incorporated as the Hampshire Inter-Library Center (HILC). Membership for informational purposes is also maintained in the Association of Research Libraries, the Association of College and Research Libraries, the American Society for

Information Science, and the Northwest Academic Science Information Center (NASIC).

Any Massachusetts citizen may use the University of Massachusetts Library as long as such use does not interfere with student, faculty, or staff use. Out-of-state borrowing is permitted only via interlibrary loan (ILL).

B. Services

The University of Massachusetts Library answers in-person, telephoned, and mailed reference questions, assists in the use of its catalogs, reference works, and audiovisual equipment, and aids in obtaining NASIC online search services and in preparing other types of bibliographies. A published accessions list was halted due to its high cost and low utilization. ILL is offered to the university community from the library as well as from HILC. Only faculty and graduate students may borrow from other campus libraries. A variety of brochures describing the library and its services are published to augment the verbal instructions and tours given by library staff.

Services offered to other libraries include ready reference aid, ILL, maintenance of two union lists of serials, and centralized ordering and processing for the twenty-nine state institutions of higher learning. For the Boston Library Consortium, it prepares the Union List of Serials Currently Received containing 59,243 records for 26,770 titles and cross references. For the Five Colleges, it prepares the Pioneer Valley Union List of Journal and Serial Holdings containing 37,283 records for between 32,000 and 35,000 titles. Both of these lists are computer-produced from punched card input and are issued as annual, soft-cover cumulations. As the center for the Massachusetts Central Library Processing Service (MCLP), the staff at the University of Massachusetts Library operated an automated system for the state academic libraries to provide the following services: generation of biweekly scanning lists from MARC tapes, biweekly two-part selection cards for each participating library, computer-printed orders and packing slips sent to dealers and publishers, computer-printed catalog cards and spine labels, invoice balancing and processing, computer-printed bills of lading, and statistical and financial reports. This project was terminated recently because its funding had not been renewed.

C. Finances

The operating budget of the Library is a line item in the university budget. Special state funds were appropriated by the Legislature and monitored by the Massachusetts Board of Higher Education to enable state colleges to strengthen their basic collections. The Books for College Libraries (BCL) system was set up with these funds to streamline the acquisitions and processing of books obtained by the then twenty-eight state colleges. Overdue fines, photocopy fees, and sales of union lists of serials to organizations outside the consortia represent minor revenues.

II. Experiences and Results

The 1969 legislative appropriation allowed $250,000 for BCL project administration. The project's name came about because a file of machine-readable records in a MARC I format taken from Melvin Voigt's Books for College Libraries was refined to give each participant a list of 55,000 titles from which to choose. Development of the system below its budget plus its early success led to renewed appropriations.

During its first two years, MCLP purchased 650,000 volumes, 1,500 sets of serials, 45,000 reels of microfilm, and 33,000 other units of microtext with a $5.5 million book budget and a $675,000 processing budget, $110,000 of which was used to develop the computer system. Bulk purchases cut book costs by 20%. Computer-printed card sets and labels reduced clerical work throughout the state. The total cost for selecting, ordering, cataloging, handling, accounting, and shipping was cut from $9.00 per copy to $2.00. Streamlined manual procedures, system-wide use of a standard, unmodified version of LC cataloging copy, plus data processing efficiency, contributed to this cost reduction. Over 70% of the items are processed one day after receipt; with few exceptions all others are processed in three days.

BCL's active order file is kept online for search by order number, LC card number, International Standard Book Number, author, or title. MARC records and locally input records not in MARC are regularly added to the original BCL tape file.

Besides the BCL project, the University of Massachusetts Library developed (in one man-year) an online ordering system on its IBM 370/145 using FASTER (Filing and Source Data Entry Technique for Easier Retrieval) BASIC, an IBM Type III unsupported language. Called BOSS (Book Order and Selection System), the system, which uses nine IBM 2260 cathode-ray tube terminals in the library, handles orders, claims, fund accounting, and vendor performance monitoring for over 90,000

titles per year. An internal catalog system produces cards and labels for BOSS acquisitions.

Since automating the internal acquisitions and cataloging systems, the clerical staff has been reduced by fourteen, the catalogers have been reduced from twelve to eight, and the file clerks from eight or nine to four or five. Processing time through the cataloging department is three to five days.

As the twenty-nine libraries grow, so does their tape file. As a result, the batch search is becoming more costly. Up to now the processing price of $1.15 per volume and fast turnaround time have made it unnecessary for the University of Massachusetts to use the Ohio College Library Center system. The National Union Catalog and other sources of non-MARC, LC copy are, however, used in support of many library activities.

Policy-making for library cooperatives has not been simple. The University of Massachusetts suffers from a lack of proximity from other members of the Boston Library Consortium since it is ninety miles from Boston, so its voice in consortium matters is not proportional to its budget. Approximately twenty thousand of the sixty thousand serial titles in BLC are unique, making the differential benefits of consortium membership difficult to measure.

III. Plans

After an upgrade in the University Computing Center, the library plans to expand its serials system, allowing more participants in the serials union list projects to have online display and updating capabilities. Online serials check-in is also being considered. Mutilation and book loss will be combatted with a special project.

UNIVERSITY OF TORONTO LIBRARY
AUTOMATION SYSTEMS (UTLAS)

Address: Room 8003
John Robarts Library
130 St. George Street
Toronto, Ontario Canada
M5S 1 A5

Telephone: (416) 978-7290

Individuals Interviewed: Mr. Keith Thomas, Manager, Network Systems Development
Mr. Robin Braithwaite, Assistant Director for Network Services

Date Information Obtained: July 23, 1976 (revised May 17, 1977)

I. Current Status

A. Organization

UTLAS is a department of the provincially supported University of Toronto Library and serves as the Canadian counterpart of the Ohio College Library Center. Unlike OCLC, however, it is not an independently chartered, not-for-profit corporation. The UTLAS director reports to the University President via the Chief Librarian and Provost. The four sections of UTLAS' organization are: (1) Network Services, handling user services; (2) Network Systems Development including programming for minicomputer-based systems; (3) Production Operations, including all computer operations and systems programming; and (4) Catalogue Systems Development, which includes applications programming. The UTLAS staff of fifty includes five managers, twenty-five technical professionals, three librarians, and other support staff.

Most UTLAS customers are in Ontario and Quebec, but university staff will contract to serve any organization which its Cataloguing Support System (CATSS) will support. As the only source of online records from the British National Bibliography,

UTLAS has a demonstration link into England via Bell Canada and Teleglobe. The Ontario University Cooperative Library System (OULCS) (whose online cataloging group is known as "UNICAT/TELECAT") is one major UTLAS customer group of universities--six in Ontario and six in Quebec. Quebec OULCS participants are also members of the Council of Rectors and Principals of the Universities of Quebec (CREPUQ). The University of Toronto is an OUCLS contributor. OULCS is one of seven projects of the Board of Library Cooperation run by the Council of Ontario Universities, a non-profit organization of which the University of Toronto's President is a member. Among UTLAS' thirty-five customers are a regional library center, public, and special libraries.

B. Services

CATSS allows user libraries to produce, derive, and edit records online from a data base of approximately 2.5 million records for nearly two million titles from over thirty members with several hundred location codes. The file contains over 650,000 records from the Library of Congress and the National Library of Canada plus over 1.85 million records in user ("client") files. Records are tagged in full MARC convention, but some non-book materials have been entered in the monographic MARC format. Records are accessible by LC card number, International Standard Book Number, International Standard Serial Number, a local control number or record sequence number, and precise title. The precise title search key consists of the first forty characters of the title after ignoring any leading article.

Each library or client may limit access to its file to its own staff or to users who are parties to an inter-client agreement. Files are organized on either an individual basis and kept private or as a single union file for a group of libraries having common standards and interests. Each client's file contains his cataloged records including all his local information such as holdings and notes.

Catalog cards are produced as prescribed by client profiles on a Xerox Graphics Printer (XGP) which offers a choice of fonts, 189 characters, and variable pitch, thus allowing the maximum number of characters on a card and reducing the need for continuation cards. Cards are generated daily or weekly depending on client needs and are sent in user-specified sets or in sorted, ready-to-file "streams."

Booklists (catalogs without cross references), new acquisitions lists, inventory lists, book-form catalogs, and other cumulative products are produced for clients on the XGP, a line printer, or a compute -output-microfilm (COM) unit. UTLAS now publishes book-form, computer-produced catalogs for the University of Toronto Science and Medicine Library, the Borough of North York, and other clients.

Special one-time jobs are also undertaken. Recently UTLAS produced a Continuing Education Directory for the Metropolitan Toronto Library. This project made use of the UTLAS online input, edit, and printing facilities.

UTLAS offers initial training and on-going support tailored to the needs of individual library systems.

C. Finances

Retrospective conversion and development of the original online system was funded by the University of Toronto. The University of Toronto also paid for many system improvements and has loaned money to UTLAS to develop a minicomputer-based circulation control system. UTLAS has not received grant funds, but its users have. Since UTLAS is self-supporting, it pays the University of Toronto for accounting services, rent, and utilities, and the University of Toronto buys UTLAS services in real dollars and lends working capital to UTLAS.

Rather than being charged for a per-record first-time use (FTU), UTLAS users are billed for all computer services used. Some data from the June 1, 1976 CATSS Schedule of Charges follows:

Terminal connect time		$4.90 per hour
Computer processing time		.045 per cpu sec, plus .0011 per memory page-sec
Disk access		.0006 per disk access
National MARC file access		.25 per record derived, or .10 per record displayed
	Minimum	$75.00
Record processing		.15 per command that puts a record in active store .25 per command that

	puts a record into passive store or yields a printed product
XGP printing 3x5 cards	.042 per card in sets .045 per card in sorted streams
8-1/2x11 pages	.12 per page
Line printer	.03 per page
User file storage (includes all standard indices, backup, and file maintenance)	
Active	$70.00 for 1st 80 K bytes .056 per K byte thereafter per month
Passive (indexed and cross referenced)	5.00 per M byte per month
Passive (not cross referenced)	.068 per M bytes per month

Charges are also made for record transfer between active and passive store, tape and disk mount, batch search, analyst and programmer consultancy, duplicating, and binding.

In 1976 the average cost to input and hold a record was $1.10, plus the cost of any desired printed product. Clients are not charged this average cost; the actual charges consist of services and time used every month.

II. Experiences and Results

In 1966 the University of Toronto began converting its catalog to its own "C2" machine-readable format, which predated MARC I. As a MARC I participant and with the advent of MARC II, UTLAS prepared software to convert data in preliminary formats to MARC II. Errors in content designation and data were corrected as detected. The first real use of the data was in preparing the book-form catalog for the university's Science and Medicine Library. The University of Toronto card catalog was closed on June 30, 1976. Its 1.2 million records are now available on fiche or in machine-readable form.

The online system was built on a Xerox Sigma 6 computer. The original software was developed between 1967-70 for use only within the University of Toronto Library and was based on a

modified version of the Xerox BPM operating system. When it was decided to offer service outside the University of Toronto, the software was redeveloped on the newer Xerox UTS operating system. The multiprogramming, mapped memory, and shared processor features of UTS allowed UTLAS to stay with largely standard manufacturer's software, unlike the Ohio College Library Center, which began by writing its own operating system several years earlier due to inadequacies in the then current Xerox operating system. UTLAS did write its own file management system. UTLAS has devoted over fifteen man-years to online systems development work to date.

Two Xerox 7630 communications-oriented controllers (each capable of handling up to sixty-four lines) currently allow ninety-six lines into the Sigma 6. Eighty 300-baud asynchronous lines can be used for bibliographic purposes by clients who have access to any "glass teletype" terminal. Eight 148-baud lines, two of which are for bibliographic use, support 2741s. Eight 1200-baud asynchronous lines are reserved for in-house programming use. All connections are point-to-point. None are multidrop. Client access is by dial-up or Bell Canada's inexpensive DATAROUTE digital service.

CATSS response time averages less than one second for searching and editing and two to three seconds for incorporating a completed record into the data base.

The online processor validates the form of fixed fields, tags, and indicators at time of input. Subfields are not validated in this way. Seventy per cent of the booklists which UTLAS produces for other libraries are derived from online records and records on tape from the Library of Congress, the National Library of Canada, and the University of Toronto retrospective files. Although UTLAS can accommodate punched card input to its book catalog jobstream, such input is not encouraged. The XGP print service has increased steadily, now producing nearly 120,000 cards per week.

Privacy and security back-up are standard features with all client fields, but a master directory facility allows for union files and client-specified mutual access and file-sharing arrangements. One public library charges 10¢ per access to its file. Two others mutually grant free access to each other's file. If, at search time, an LC card number search is used and the record is in a file to which you have no access, you are not informed of the hit or of the fact that it was in another library's file.

Unlike OCLC, CATSS allows users to store local versions of records, not on archive tapes, but on disk packs kept in low-cost "passive" storage offline, to be mounted when needed. More costly active online storage may be used as needed. Clients are not allowed to alter each other's data. CATSS also allows the user to hold a search file of "no-hits" from a given day to search them periodically against future MARC tape input. UTLAS sends tapes to the University of Guelph and the College Bibliocentre so that these clients can print book cards and spine labels on Dataproducts and 2741 printers, respectively. These special file features have been added to CATSS in response to client requests.

The most efficient user of CATSS experienced an average cost of $1.45 per title computed as total UTLAS charges divided by total titles cataloged. Such statistics are distributed to all clients to encourage them to use CATSS more efficiently and to make them aware of improvements made by UTLAS. The OULCS user group adds a surcharge and membership fee to UTLAS charges. Two of the original OULCS members may withwithdraw: the University of Guelph to perform CATSS-like tasks on a library minicomputer and the University of Western Ontario to use a campus computer. The College Bibliocentre (a provincially chartered UTLAS user doing book processing for Ontario community colleges) had been running weekly selection lists consisting of MARC tapes sorted and printed by call number, but stopped this service for economic reasons.

Early UTLAS clients were "pioneers" seeking to break away from the restrictions of manual procedures. Now members seek cost reduction and files less vulnerable than card catalogs. UTLAS offers them an economy of scale, flexible card production, the ability to generate and control their own records, and the chance to build an online data base for future uses beyond cataloging. Users believe that these advantages outweigh UTLAS' lack of authority files, costly book catalogs, and minor format/presentation problems.

III. Plans

UTLAS is continuing to develop the CATSS system. Enhanced search capabilities via name, title, and subject heading are being developed. Work is also underway on online authority files using the LC-like format for authority records. The National Library of Canada's French subject heading authority tapes should help to create linked authority records so that French or English authorities may be displayed for the same record. Plans for batch service enhancements include controlled cumulation and

merging to reduce the cost of producing book and microform catalogs. A Sigma 9 is on order to replace the Sigma 6 as the online machine. The Sigma 6 will then be used as a batch and development and programming machine.

Work is underway on minicomputer-based systems for local collection management functions. A Data General Eclipse S/200 will support a surrogate bibliographic data base derived from the master records held in the Sigma system, as well as patron and transaction files, for a large library or a group of small libraries. A major feature is online inquiry (precise or browsing), initially by author, title, or call number and later by subject and with Boolean operators. Circulation control will be provided using bar-code technology (CIDABAR) with Monarch scanners built into a printing transaction terminal (with optional cathode-ray tube terminal) developed for UTLAS by DAYTON Scientific Inc. Longer-term development plans for the minicomputer-based system include serials check-in, claiming, order and acquisition processing, and accounting.

As minicomputer-based systems are deployed, users will be offered the ability to communicate with the central Sigma (CATSS) machine through the minicomputer. This service will slowly grow into a truly distributed network with the data bases in the central site and the minis being synchronized in real-time, and with all bibliographic editing being performed in the mini (or in microprocessor-driven terminals attached to the mini) on master records "charged out" from the central site. UTLAS intends to provide other access package software to reside in the mini, so that from a single terminal a user might access his local data base, the UTLAS central data base, data bases on other minis or provided by other services, such as System Development Corporation, Lockheed, New York Times, or QL, from a single terminal. Such capabilities will be especially attractive once Bell Canada's packet-switching network is available in all major centers. UTLAS is also interested in developing online communication between their central system and other bibliographic centers such as LC.

WESTERN INTERSTATE LIBRARY COORDINATING ORGANIZATION (WILCO)

Address:	WICHE P.O. Drawer P Boulder, Colorado 80302
Telephone:	(303) 492-7317
Individuals Interviewed:	Mr. Karl M. Pearson, Jr., WILCO Director Ms. Maryann Kevin Brown, Cost and Funding Analyst Ms. Anita L. McHugh, Staff Assistant Ms. Mary Haenselman, Secretary
Date Information Obtained:	June 18, 1976 (revised Jan. 1, 1977)

I. Current Status

A. Organization

WILCO refers to all program areas of the integrated library program of the Western Interstate Commission for Higher Education (WICHE). WICHE is a non-profit agency created in 1951 by thirteen western states. WICHE was created by and administers the Western Regional Education Compact, an agreement approved by the U.S. Congress and the legislatures and governors of the participating states, whereby member states pledged cooperative improvement of educational programs and facilities. WICHE is considered an agency of each compact state. This facilitates fund transfers among state agencies.

WICHE is governed by a commission consisting of three residents (at least one of whom is an educator) of each compact state. All are appointed by their respective governors. An executive director is appointed by the commission to administer WICHE's affairs.

WILCO's director reports to both the WICHE executive director and to the Western Council of State Librarians (of nine compact states plus South Dakota). The Western Council of State

Librarians acts as the governing board for WILCO and has voted to move WILCO from WICHE as of July 1, 1977. Besides the one- to six-person staff, WILCO has drawn upon advisors from the Association of Research Libraries, as well as from special and public libraries and network directors. The WILCO staff has been employed in three functional areas: network development and coordination (resource-sharing), research and development, and continuing education. A project-oriented organization structure is employed as needed.

In addition to member states, WILCO works with other WICHE states and North Dakota, Kansas, Nebraska, and British Columbia. WILCO is not and will not be competitive with cooperative activities, networks, or systems already at work in the West.

B. Services--Experiences and Results

WILCO has given the West a staff ready to address resource-sharing, continuing education, and cooperative planning problems and needs which cannot be met economically or feasibly on local or operating levels. Special WILCO projects address regional library problems.

A project to plan and develop interstate library networking, which was funded by the Council on Library Resources in fiscal 1976, was a major WILCO activity. Areas of concern for this study included: possible legal modes of operation and organizational structure, memberships, funding, governance and administration, interlibrary loan, coordination, and other resource-sharing activities. A Steering Committee and its four-member Executive Board directed WILCO staff efforts on behalf of the entire West. The major product resulting from the study is the document Library Networking in the West: The Next Three Years.

WILCO has also concluded a cost and funding study under a U.S. Office of Education grant and with Western Council support. This study focused on technical processing and ILL operations in 100 western libraries to determine representative costs of present library services and ILL traffic patterns. Data collection forms developed for this study are available to any western or other library wishing to use them as tools for conducting internal cost analyses.

Other WILCO activities have included:

- Working with the Nevada State Processing Center on a trial of BALLOTS as a means of obtaining tape input

for Nevada's union catalog file maintenance system.

- Conducting a survey of serials data bases, enabling a Montana Library Association committee to select the Minnesota Interlibrary Telecommunications Exchange (which is responsible for maintaining the Minnesota Union List of Serials) as a contractor with funds from LSCA Title I to produce the Montana union list of serials on microfiche.

- Sponsoring with the U.S. Office of Education (USOE) an Institute on Library Staff Development in which forty-one libraries in twelve states prepared plans to implement staff development activities in their libraries or at the state level.

- Conducting continuing education workshops on such topics as planning for materials conservation and preservation, interpersonal communication, basic reference services, management by objectives, and interlibrary loan.

- Loaning copies of the ACCESS videotapes to western libraries, with the tapes geared toward the problems of librarians in smaller public libraries.

The results of these activities are described in the following list of publications:

- Economic Issues in the Networking of Library Technical Support Services. Scott Gassler. October 1976. #2B131. A basic economic examination of the automated services market and the role of librarians, the Library of Congress, bibliographic centers, and brokers.

- The Founding of the Western Interstate Library Coordinating Organization: A Narrative Final Report on the Project "Initiating the Design and Development of a Western Inter- state Bibliographic Network." Karl M. Pearson, Jr. and Eleanor A. Montague. September, 1976. #2B136.

- Library Networking in the West: The Next Three Years. September, 1976. Order from WILCO, no charge. Assumptions concerning the networking environment 1977-1979, and goals and tasks for western librarians and networking service staffs.

- A Review of Potential Components for the Western Bibliographic Network. Karl M. Pearson, Jr. and the Project staff. March 1976. #2B121. Describes bibliographic utilities, service centers, networks, data bases, and telecommunications available for the support of western libraries. Includes surveys of union lists of serials and CLSI circulation control system installations.

- WILCO Newsletter. 1-, January 1976, irregular. Order from WILCO, no charge.

- Cost and Funding Studies of the Proposed Western Interstate Bibliographic Network--Final Report. November 1976. #2B132.

- Cost in Technical Processing and Interlibrary Loan--Data Processing Users Manual. Anita L. McHugh. November 1976. #2B133. Cost Analysis Instruments (see below) are needed to follow the explanations in this users manual.

- Cost Analysis Instruments. (Set of nine instruments). 1976. #2B122A.

- Librarian's Handbook for Costing Network Services. December 1976. #2B134. By using an input-process-output model, methods for evaluating alternative network services are suggested.

- Survey of Costs in Technical Processing and Interlibrary Loan--Summary. Maryann K. Brown and Anita L. McHugh. December 1976. #2B130.

- Survey of Costs in Technical Processing and Interlibrary Loan--Survey Tables and Case Studies Results. Maryann K. Brown and Anita L. McHugh. December 1976. #2B129.

- A Community Librarian's Training Program. Joseph F. Shubert. 1973. #2B79. A report on a New Mexico program and guidelines for developing training programs based upon correspondence study and adult education techniques.

- Hispano Library Service for Arizona, Colorado, and New Mexico. Julia Vadala, ed. August 1970. Order from WILCO, no charge.

- Interpersonal Communication Workshop. Sue Buel and Charles Hosford. July 1972. #2B101, no charge. Materials selected from Interpersonal Communications, Northwest Regional Education Laboratory.

- Staff Development and Continuing Education Programs for Library Personnel: Guidelines and Criteria. Barbara Conroy. January 1974. #2B94.

- Staff Development Model Book: Program Designs for Library Personnel. Barbara Conroy, ed. June 1976. #2B122. Compilation of staff development program designs contributed by participants in a WICHE/USOE year-long institute.

- Training the Trainers to Train for Interlibrary Cooperation and Networking. Jo Chaunaud and Maryann Duggan. July 1975. #2B120.

C. Finances

Each WILCO member state pays an annually determined fee to finance WILCO's general activities. WILCO's networking project was funded from two sources: a network planning grant from the Council on Library Resources and the Western Council. The Staff Development Institute was funded by a USOE grant, plus Western Council funds and support from participating libraries.

II. Plans

The plans of WILCO are uncertain at this time, pending the move of WILCO to a new location and the results of a spring 1977 meeting whose purpose is to discuss the future of the region's cooperative efforts.

WASHINGTON LIBRARY NETWORK (WLN)

Address:	Washington State Library Olympia, Washington 98504
Telephone:	(206) 753-5592
Individual Interviewed:	Roderick G. Swartz, State Librarian
Date Information Obtained:	June 30, 1976

I. Current Status

A. Organization

The Washington Library Network is a group of autonomous, geographically dispersed participants using an automated library system and other systems and technologies for the purpose of sharing information and library resources. Its resources and ongoing work are currently coordinated by the Washington State Library Commission on a project basis. Legislation has established the Washington State Library Commission as responsible and accountable for the network.

Any library in the state is eligible for membership, although participation in the pilot project has been necessarily limited to eight district system libraries, a four-year college library, and the Washington State Library for a total of 120 libraries.

The development of the bibliographic subsystem is under contract to Boeing Computer Services, the acquisition module is being developed by Washington State University, and the circulation and serials control subsystems are in design stages. These efforts have been guided by several committees, the most notable being the Resource Directory Advisory Committee and the Library Automation Committee.

The objectives of the network are to: (1) expand the availability of library materials throughout the state; (2) reduce unnecessary duplication of cataloging effort among

libraries; (3) improve control of the accuracy and completeness of bibliographic records; (4) improve interlibrary loan communication and delivery; and (5) develop the capability to interface with other computer utilities in a national network.

B. Services

1. Communication Network

Although not administratively connected to WLN, the State Controlled Area Network (SCAN) telephone service can be used by the public and academic libraries throughout the state. This network is used to facilitate resource-sharing.

2. Resource Directory

The WLN computer system produces a directory of all of the resources held by participants. This directory, produced on fiche, contains all of the holdings of the libraries in the system and has effected a significant increase in the use of resources throughout the state.

3. Catalog Card and Label Services

The WLN computer system produces catalog cards and labels for those network members who desire them.

4. Online Bibliographic Access

One of the primary objectives of the WLN pilot project was to create and maintain a comprehensive bibliographic data base. When the current round of development is completed, the data base will be online to be searched by network libraries. At the time of the survey, the system was still being developed; however, it is presently in preliminary production operation. One feature of the system is that automatic authority checking is performed on all locally added records.

C. Finances

The early study and planning work of the network were sponsored by grants. The pilot project and the on-going development support are funded by state appropriations. It is intended that on-going operational funding will be supported by participating libraries.

II. Experiences and Results

The Washington Library Network is the latest step in a long-range program of cooperation among libraries in the state. The current development effort is a continuation of a technical program which began with the Washington State Library's participation in the MARC I pilot project. This project used MARC I tapes to produce catalog cards, book cards, book pockets and spine labels, and a book catalog.

The State Library continued to be the focus for the technical aspects of cataloging for the network and designed a Basic Bibliographic System for WLN in 1971. The Resource Directory Pilot Project was the first technical effort which followed guidelines set forth by its system design. This project was very successful, measured by the increase in the use of library materials and the reduction of cataloging effort throughout the network.

The online system is in initial operation. Although operational difficulties and bugs have to be removed prior to increasing the number of users, a preliminary assessment of its costs indicates that they are reasonable. However, because of the extensive testing and refinement underway at present, no specific cost figures are available.

III. Plans

The immediate plans are to expand the online system through the addition of more libraries on a leased line and dial-up basis. The system development effort is continuing, and plans and design work are underway to provide circulation control by linking copy level data to the bibliographic system.

Throughout the WLN developments and future planning, careful attention is paid to quality control, consistency, and adherence to standards in cataloging. To this end, WLN has plans to establish a bibliographic center with responsibility for maintaining quality control. In this effort, there is an expressed willingness to cooperate with the Library of Congress by sharing cataloging and systems design information, disseminating LC information via WLN seminars and workshops, documenting requests for new or improved LC services, and transmitting records between computer systems.

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